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TRANSACTIONS

—OF THE—

MINNESOTA

STATE MEDICAL SOCIETY.

1881.

ST. PAUL:
H. M. SMYTH & CO., PRINTERS.
1881.

Officers of the Society.

PRESIDENT:
C. N. HEWITT, M. D.

FIRST VICE-PRESIDENT:
S. S. WALBANK, M. D.

SECOND VICE-PRESIDENT:
A. J. MURDOCK, M. D.

THIRD VICE-PRESIDENT:
A. E. SENKLER, M. D.

TREASURER:
S. B. SHEARDOWN, M. D.

RECORDING SECRETARY:
C. H. BOARDMAN, M. D.

CORRESPONDING SECRETARY:
J. F. FORCE, M. D.

CENSORS.

For Three Years: H. S. Hersey, M. D.
Daniel Leasure, M. D.

For Two Years: A. W. Giddings, M. D.
William Jacoby, M. D.

For One Year: C. F. McComb, M. D.
J. B. McGaughey, M. D.

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TRANSACTIONS

OF THE

THIRTEENTH ANNUAL MEETING

OF THE

MINNESOTA STATE MEDICAL SOCIETY.

The Society met at 10 A. M., on Tuesday, June 21st, 1881, in Sherman Hall, St. Paul, and was called to order by the President, Dr. A. J. Stone.

After prayer by the Rev. S. G. Smith, the roll was called, and some thirty-four members answered to their names; the number subsequently increasing to seventy-five or eighty.

Following the address of welcome, by Gen. R. W. Johnson, which was received with marked favor, Drs. Mayo, Walbank and Owens were appointed a committee to examine the credentials of those applying for admission to membership.

The ladies and gentlemen named in the following list were reported at various times during the meeting as qualified to become members, and were, on motion, elected:

J. G. Kittson, Saint Paul,	McGill Coll.
W. D. Flynn, Redwood Falls,	Rush Coll.
A. T. Cowley, Cannon Falls	Iowa Univ.
F. R. Woodard, Claremont,	Rush Coll.
J. J. Dewey, Saint Paul,	Rush Coll.
Winthrop Miller, Minneapolis,	Harvard.
Thornberg Parker, Saint Paul,	Munich.
A. F. Ritchie, Duluth,	McGill.
J. A. DuBois,	
F. F. Bissell, Litchfield,	Cleveland Coll.
Philo E. Jones, Red Wing,	Cincinnati Coll.
W. A. Jones, Saint Peter,	Univ. of N. Y.
C. E. Riggs, Saint Paul,	Baltimore Coll.
William Frisbie, Mankato,	Univ. of N. Y.
J. A. Quinn, Saint Paul,	Coll. of Phys. and Surg., N. Y.
A. Blitz, Minneapolis,	Cincinnati Coll.
T. C. Clark, Stillwater,	
T. F. Quinby, Minneapolis,	Coll. of Phys. and Surg., N. Y.
G. W. Greaves, Glencoe,	
J. B. Moffett, Minneapolis,	Rush Coll.
C. S. Bigelow, Albert Lea,	Univ. of Mich.
H. W. Foster, Minneapolis,	Detroit Coll.
A. W. Abbott, Minneapolis,	Dartmouth Coll.
Edward B. Zier, Minneapolis,	Louisville Coll.
Leland H. Munger, Eyota.	
Mary Hood, Minneapolis,	Women's Med. Coll., Phila.
S. Augusta Magraw, Saint Paul,	Women's Med. Coll., N. Y.
A. M. Hunt, Minneapolis,	Women's Med. Coll., Chicago.

Dr. A. E. Senkler, having removed from Toronto to St. Paul, was transferred from the honorary to the active list.

An address was delivered by Dr. Leasure on behalf of the Ramsey County Society, after which Dr. Boardman presented the report of the Committee on Medical Jurisprudence.

The report was referred to the Publication Committee; and it was moved by Dr. Millard that a committee of five should be appointed, who shall be instructed to circulate the report through the State, and to endeavor to secure the adoption by the next legislature of the measures which it urged.

Upon the passage of the motion, Drs. Boardman, Sheardown, Wedge, Hill and Murphy, were appointed as the committee by the chair.

Dr. Millard, by request, made a report of his visit to the American Medical Association, at its recent session in Richmond. He congratulated the Society upon the anticipated meeting of the Association in Saint Paul next year, and referred to the profit and pleasure to be derived from it.

A communication from Dr. Staples was received, expressive of his interest in the Society and its proceedings, and of his regret because of his inability to be present.

The resignations of Drs. A. B. Stuart, Armstrong, and Le Blond were presented and accepted; these gentlemen having removed from the State.

On motion, Drs. Stuart and Le Blond were elected honorary members of the Society.

The Society then adjourned until 2 P. M.

AFTERNOON SESSION.

After the Society was called to order, Dr. Rolph, of Fargo, D. T., was unanimously invited to take part in its deliberations.

The Treasurer, Dr. Sheardown, then presented his report as follows:

S. B. SHEARDOWN, *in account with the*

MINNESOTA STATE MEDICAL SOCIETY:

	Dr.
To amount in treasury 1880	$194 15
" for initiations and certificates	105 00
" annual dues for 1880	110 00
" delinquent dues	60 00
	$469 15

			Cr.
By amount paid		H. M. Smyth & Co.	$230 75
"	"	Williams & Drake	9 75
"	"	C. H. Boardman	7 00
"	"	Pioneer Press	6 00
"	"	St. Paul Globe	3 50
"	"	Jay Owens	3 08
"	"	A. E. Senkler	3 40
"	"	E. J. Davis	3 25
"	"	H. M. Smyth & Co	2 75
"	"	H. M. Smyth & Co	1 50
"	"	C. H. Boardman	2 00
"	"	E. J. Abbott	3 00
"	"	Telegram to Maine	2 90
"	"	Janitor	5 00
"	"	S. B. Sheardown	5 50
"	"	on hand	179 77
			$469 15

June 21, 1881.

S. B. SHEARDOWN,
Treasurer Minnesota State Medical Society.

The report, having been found correct, was, on motion, accepted.

The Committee on Obstetrics, through its chairman, Dr. Millard, presented its report, which was referred to the Publishing Committee.

The report of the Committee on Epidemics, Climatology and Hygiene, Dr. Jones, chairman, was read and referred to the Publishing Committee.

On motion, it was ordered that during the remainder of the session all reports whose reading required more than fifteen minutes, should, at the expiration of that time, be referred to the Publishing Committee.

The report of the Committee on Ophthalmology and Otology, Dr. Atwood, chairman, was read; the usual disposition was made of the report.

Dr. Atwood also introduced a circular received from Dr. Jeffries, of Boston, requesting the Society to memorialize Congress with reference to the establishment of a commission to consider the subject of Daltonism.

The circular was, upon motion, referred to a committee of three: Drs. C. E. Smith, Lincoln and Evans, who recommended the adoption of the following resolution:

WHEREAS, a petition has been presented to Congress asking for the calling of an international commission to consider and agree upon standard methods of testing visual acuteness and color-blindness, and standard requirements of these necessary qualifications in navies and merchant marines;

Resolved, That the Minnesota State Medical Society heartily approves of the proposed international commission, and hereby directs the Secretary of the Society to transmit this vote to Congress when next assembled.

The preamble and resolution were unanimously adopted.

After an invitation to the Society from Dr. Stone to partake of a banquet at the Merchants Hotel in the evening, Dr. Tefft offered a resolution, as follows:

That the members of this Society be assessed [ ] dollars, to be placed at the disposal of the Committee on Arrangements, for the purpose of defraying the expense of a proper reception and entertainment of the American Medical Association; said assessment to be collected by the Treasurer at least one month before said meeting.

The motion was opposed by Dr. Leasure and others, and was finally withdrawn.

The Society adjourned until 9 A. M. on Wednesday.

After an hour pleasantly passed in social intercourse in the parlor of the Merchants Hotel, the members of the Society transferred themselves about 9 P. M. to the dining room as guests of Dr. Stone, who presided on the occasion. A number of prominent citizens were present, and after due attention had been paid to the banquet the usual speech making was indulged in, with its usual accompaniment of fun and merriment. The evening's enjoyment continued until a late hour, and was fittingly closed by the introduction of a resolution by Dr. Jones, expressive of warm appreciation and hearty thanks on the part of the Society for Dr. Stone's generous hospitality, which was carried not only unanimously, but also with loud applause.

MORNING SESSION.

WEDNESDAY, JUNE 22.

Pursuant to adjournment, the Society met at 9 A. M., its session being opened with prayer by the Rev. D. R. Breed. A report from the Committee on Medical Societies was read by its chairman, Dr. Jacoby, and referred to the Publishing Committee.

Dr. Wheaton presented the report of the Committee on Surgery, reading the various papers by title, with the exception of a detailed account of a case of extirpation of the larynx, which occurred in his own practice, and which, by special request, was read at length.

The thanks of the Society were tendered to Dr. Wheaton for his valuable and interesting paper, and the report of the committee was accepted and referred to the Publishing Committee.

Dr. Horst read the report of the Committee on Orthopœdics, which was illustrated by the presentation to the Society of a young man and a boy, both of whom were affected with spinal curvature, and who wore the paper jacket used by Dr. Horst, which is claimed to be superior in various respects to the plaster apparatus introduced by Dr. Sayre.

The report was referred to the Publishing Committee.

The reports of the Committees on Medical Education, Diseases of Children, Materia Medica and Gynæcology, were presented and referred as usual.

On motion of Dr. Millard, the order of business was suspended and the Society entered upon the election of officers; amendments to take a preliminary recess of five minutes and to appoint a nominating committee having been offered and lost.

It was ordered, on motion, that an informal ballot be first taken.

Drs. McMurdy, of Minneapolis; Kennedy, of Litch-

field; and Hewitt, of Red Wing, were nominated, and the informal ballot resulted as follows:

Dr. McMurdy, 26; Dr. Kennedy, 10; Dr. Hewitt, 42.

On motion, Dr. Hewitt was declared to be the unanimous choice of the Society for President.

The following officers were then elected:

PRESIDENT:

C. N. HEWITT, M. D., - - Red Wing

1ST VICE-PRESIDENT:

S. S. WALBANK, M. D., - - - Duluth.

2ND VICE-PRESIDENT:

A. J. MURDOCK, M. D., - - Taylor's Falls.

3RD VICE-PRESIDENT:

A. E. SENKLER, M. D., - - Saint Paul.

TREASURER:

S. B. SHEARDOWN, M. D., - - Stockton.

RECORDING SECRETARY:

C. H. BOARDMAN, M. D., - - Saint Paul.

CORRESPONDING SECRETARY:

J. F. FORCE, M. D., - - Heron Lake.

The report of the Committee on Amendments to the Constitution and By-Laws, Dr. Leasure chairman, was then considered.

The following amendments to the report of the committee as made at the last annual meeting were offered and accepted:

ART. I, SEC. II.

Provided, That when the American Medical Association meets in Minnesota, the time and place of the annual meeting of the State Medical Society may be changed in conformity therewith.

ART. IX, SEC. I.

This Constitution may be amended by a unanimous vote at any regular annual meeting, without a year's written notice.

The amendments reported by the committee as thus amended were unanimously adopted.

In accordance with the provisions of the amended Constitution, the following Censors were elected:

For three years,	-	DRS. HERSEY and LEASURE.
For two years,	-	DRS. GIDDINGS and JACOBY.
For one year,	-	DRS. MCCOMB and MCGAUGHEY.

The retiring President, Dr. Stone, then delivered the annual address, at the conclusion of which the following resolution was offered and adopted:

That the thanks of the Society be tendered to the retiring President for the able and impartial manner in which he has discharged the duties of his office, and for the courtesy which has characterized his relations with us as a professional brother and a gentleman.

A resolution of thanks for the address was also passed, coupled with a request that a copy be published in the daily papers.

The Society then adjourned until 2 P. M.

AFTERNOON.

The Society being called to order at 2 P. M., Dr. Jones offered the following resolution, which was unanimously adopted:

That the thanks of the Society are due and are hereby tendered to Gen. R. W. Johnson, for his eloquent and appropriate address of welcome.

A paper by Dr. Blitz, on Ophthalmology and Otology, was read and referred to the Publishing Committee.

The newly elected President, Dr. Hewitt, was introduced to the Society by Dr. Stone, and expressed in fitting terms his appreciation of the compliment implied in his election, and his desire to discharge worthily the trust thus committed to him.

Dr. Wheaton made a verbal report for Dr. Humes, of a case of carcinoma of the stomach and liver, expressing at the same time his regret that the organs involved by the disease were so far advanced in decomposition when they reached him, that no examination of them could be made.

Dr. Slagle described some cases of tœnia, in one of which apparently two different varieties of the parasite were found co-existing in the same patient. The oil of fern was resorted to, but without effect; the oleo-resin of Kousso with ol. ricini proved more efficient, its administration resulting in a cure.

After a discussion of these cases by the Society, Dr. Hill described a case in which several segments of a Squire's vertebrated catheter were broken off in the bladder, being subsequently removed by a supra pubic incision; the patient recovered.

Dr. Stone exhibited his modification of Tarnier's perinœal forceps; the curve being such that traction is made from the points, and the head is lifted way from the perinæum instead of being dragged against it.

Dr. Murphy described several cases of fractured pelvis, and a case of ununited fracture of the tibia and fibula, in which union was secured by the use of the gimlet.

Dr. T. W. Sheardown introduced the following resolution, which was adopted:

That, in view of the meeting of the American Medical Association in St. Paul next year, the Publishing Committee are hereby authorized to have printed such additional copies of the Transactions as in their judgment will be sufficient to distribute among the members of the Association.

Dr. Leasure moved that when the Society adjourn, it

be until the first Tuesday of June, 1882, at 9 A. M., in the city of Saint Paul; adopted.

Upon the statement of the President that a properly considered list of committees could not be prepared in the short time before adjournment, Dr. Stone moved that such time as he might deem necessary for this duty should be given to the President, with the understanding that the list should be ready in season for its publication in the Transactions; adopted.

The Society then adjourned, to meet in Saint Paul, at 9 A. M., on the first Tuesday of June, 1882.

C. H. BOARDMAN,
Secretary.

ADDRESS OF WELCOME.

ON BEHALF OF THE CITIZENS OF ST. PAUL.

BY GEN. R. W. JOHNSON.

Gentlemen of the State Medical Association:

It has been devolved upon me to bid you a welcome to the city of St. Paul. I can assure you that I do so with great pleasure, and yet I would that the pleasing duty had been entrusted to more able hands. Words are sometimes called "hollow things," and suavity is sometimes called acting, both embracing and concealing only emptiness, but yet words and personal address are, after all, real things, and when they represent truly an occasion or sentiment are invaluable. Such true and fitting words are not always at one's command when they would have them. This poverty of expression, I may frankly confess, envelopes me to-day. I say to you, gentlemen, welcome to the city of St. Paul, but how shall I say it to make you feel it? I would not have you think this a mere formal utterance, like a decorated piece of confectionery on an elaborate dinner table, to be looked at, not partaken of, but to be reserved for some future occasion. I would bid you a welcome that you will feel is for you, and on account of something that pertains to you. You are here as the members of a great scientific school—you are the representatives of study—of research—of experience and close observation.

You are a part of the grand superstructure of attainment and discovery that mind and brains have been for ages erecting above the foundations of mere matter and crude existence. You are here, too, in the full character of all that you professingly represent, for the purpose of laying the foundation, by consultation together, of still higher attainments, and more ingenious skill.

The professions that are scientific, that call for a knowledge of subtle laws of nature, and by discoveries of hitherto unknown laws that give to man new powers, new agencies, dissolve old mountains of impediments, and multiply the old units of accomplishments by millions, cannot fail to command the respect, if, indeed, not the homage, of all intelligent men.

The great cities of the world in all ages have been, and are to-day, eager to greet with welcome the chieftain of the battle field; the civil hero of diplomatic success; the grandly dreaming poet and the soul embracing musician. In this, our time, no less a welcome should be accorded bodies of scientific men, assembled as you are to-day to cement what has been ascertained in the past, and incite the hoped for accomplishments of the future.

But what shall I say of the quality of the science? What is the comparative importance to man of the various sciences? How shall the several scientific professions rank in our estimation? It is delightful to be wheeled over the continent on a steel rail, while luxuriously at ease in down-like upholstery. It is pleasant to be able to telephone your butcher for sweetbreads and choice cuts. It is restful to ascend to your four-story bed-room in an elevator. It is diverting to read the world's doings at breakfast by virtue of the telegraph wires, and then inaugurate your epicurean day with fruits that only ocean steam navigation could make possible for you—but, and right here, gentlemen, I bid you welcome to St. Paul.

I say only an indifferent headache would make that railroad a torture—a very ordinary pain in the region of the

belt will disrupt your telephonic attachment with your butcher—a single unstrung nerve will constitute the elevator an abomination, and imprison you in your fourth-story altogether, while even a moderate acquaintance with neuralgia will make those morning telegrams seem a worse bedlam than Fourth of July in the city, and the ocean, with all its floating fruitage, dwindle into a moderate pond for suicide.

Attain to whatever we may in all the other sciences, count the stars, tell the distance to the sun with the most minute accuracy, discover and utilize a North Pole passage if you will; separate the American Siamese twin continents with a canal; light the world with electricity, and teach our President and Queen Victoria to sit down together and whisper state secrets unconscious of three thousand intervening miles—and after all we must remember, and we must recognize that good health is the commander-in-chief of all the forces.

Much of the invention and discovery of the present age is at the expense of vital forces, and even at the cost of life itself. Men become spendthrifts of their energies, profligate of their powers in the enthusiasm of their pursuit for knowledge, and their ambition to shine as promoters of the grand upward march of the race. It becomes your duty, gentlemen, to repair these shattered forces—to string up and attune the nerves, to ward off the shaft of death, or receive it powerless on some stout shield, forged and toughened and polished in the laboratory of your experience and study. It is yours to watch, and guard, and check the great brains of your day and generation. Yours to conserve all that great and good men would thoughtlessly and needlessly lavish.

As we cannot have a mountain without a valley—as we cannot have light without a shadow, as we cannot ascend without a possibility of descent, so we have in the midst of all the glory of a humane and æsthetical civilization, dark, dank spots of crime. Merely to seize and obliterate

the criminal was the process of the far past. But one of the grand results and glories of your profession has been to analyze the physical conditions attending and nourishing crime, and from these studies you have been able to distil a great many ounces of preventive as well as compound most effective doses of cure. It is yours to stay the rashness of youth—to arrest the tippling elbow—to frighten away that demon, Excessive Pleasure, that with so many delightful sounds, so many airy graces, so many flaunting colors and such fascinating titillation of nerve, courts its victims, if not to early graves, to prison cells and capital death. In many ways it is yours to illuminate domestic and municipal shadows, polish the dark spots on private and public life, in a word—lessen and cure crime.

It has been often said that man is full of trouble, and from my own experience I am inclined to think it is true. Mr. Beecher once emphasized this statement by adding "and his first great trouble is in getting born." I cannot quote you my own experience, for I have no recollection of the event, but I have no doubt I am indebted to some predecessors of yours for professional services on that auspicious occasion.

What a responsibility to act as you do as mediators between an eternal unconscious past, and all the possibilities of an eternal conscious future! Whence these spirits of ours come no man knoweth. We possess them without any knowledge of the great impenetrable past, but it is yours to hand to the world the little casket that first contains them—jewels of affection then in a mother's eyes, and later, perhaps, the Saviors of a country—the Benefactors of a race, or perchance, a Stalwart clutcher after patronage. Presidents, Senators, Governors, Generals, all touch your palm as they enter the ring of life's pavillion, and would to God none of them in after life ever touched a palm less innocently.

Infancy is soon lost in youth and youth soon evolves the man, and then comes the tug of war—a war merely

for existence—it may be, possibly, for large accomplishments, but it is all war, real war, with wounds and breaks and all sorts of disaster. When every other profession runs off the track, bursts its boilers, rolls over the precipice, clashes its train, submerges its marine, it is yours to bind up and give back to life. Just here all other science retires—retires to the back ground and is silent. Just here you are pre-eminent. Others allow or incur destruction, you step in with restoration. Could we stop here, gentlemen, you would be Gods; but alas, there is one point to which you may accompany us with all gentleness and with all humane skill, but at that point, Nature's subtlety eludes you and we die.

The dead never come back to give a final opinion of you, but as you were with us at the first, and have done so much for us all through life thus far, we that are living verily believe that we will not be disappointed in you at the last, and hence we welcome you to St. Paul.

To conclude, gentlemen, you embody and illustrate the grandest profession of the age. Your decisions, your permissions and your denials interlace all civilized life, and embrace all the activities of commerce and invention. You conserve energies and regulate luxury. Without your sanitary guardianship great cities would be impossible and great assemblies hazardous. Much of the world's enterprise, as to-day astonishingly conducted, would languish but for your assistance. Many achievements would have been lost in the past in an early grave, but for the recovery and preservation drawn from your ranks.

In all these words I have not sought to exaggerate. I believe I speak simply the plain truth. There is much more I might say, if time permitted, of the hardships and manly devotions and personal sacrifices of the profession to which you belong. I am, by no means, unfamiliar with these characteristics of your professional life. My father was a physician. Three brothers of mine followed in his footsteps, and I have encouraged the succession by edu-

cating a willing son to take a place in your honorable ranks. You will not wonder, therefore, that it is a source of pleasure to me, gentlemen, to greet you here to-day.

Be assured you are welcome, and I will only add that great as you are as scientists—as students, practically beneficent as you are from the very nature of your calling, whenever in individual character, to all that is professional, is added personal courtliness and christian love and morality, you become angels of mercy, worthy namesakes of the Great Physician "in whom we all live, and move, and have our being."

Gentlemen, I bid you welcome to St. Paul.

ADDRESS OF WELCOME,

ON THE PART OF THE PHYSICIANS OF RAMSEY COUNTY.

BY DANIEL LEASURE, M. D., OF SAINT PAUL.

Members of the Minnesota State Medical Society, and Gentlemen:

On me, as President of the Ramsey County Medical Society, devolves the pleasant duty of bidding you a hearty welcome to your capital city, the metropolis of a new empire. It affords me much satisfaction to do this at the request of the worthy President of the State Society, and as this is likely to prove a very interesting and responsible meeting, on account of the prospective meeting of the American Medical Association in Saint Paul next June, it may not be deemed presumptive in me to briefly allude to it at this early stage of your proceedings.

At the request of the President of the Minnesota State Medical Society, who represented us at its late meeting in Richmond, Va., sustained by previous invitations from the municipal authorities of Saint Paul, that Association decided to accept our invitation, and now it devolves upon us to unite with the profession of the city and the authorities and citizens, to give such a reception to the visiting professional brethren on that occasion as may be due to their great worth and the honor of our State, constituting, as it does, the gateway to that wonder-land, the "New

Northwest," where but a little while past our geographers placed a portion of the Great American Desert. There, at the head of navigation on the "Father of Waters," the city of Saint Paul, and her beautiful daughter, Minneapolis, will combine to give our Eastern and Southern friends an idea of the vast resources of the land beyond where, within an hour by rail to-day, twenty years ago the war-whoop of the savage echoed over the plains, and his receding footsteps were red with the blood of slaughtered victims. But, under the influences of a young but mighty civilization, the land lies peacefully under the summer sun, ripening millions of acres of waving wheat into a golden harvest. There can be no doubt as to the course the Minnesota State Medical Society will take to give a fitting reception to the representative delegates of the profession assembled from every portion of the continent. The profession of Saint Paul extends to you a most cordial welcome for your own sakes, and will endeavor to make it pleasant for you, well knowing that you yourselves will make it profitable.

These organized annual reunions are well calculated to keep alive the professional ardor of every true lover of a profession deriving its origin in an antiquity so remote as to antedate all sign and written language, and which has always had for its motive the cure of sickness or the alleviation of pain. It has been said that the true physician, like the poet, must be born with the divine instinct strongly latent within him, or no amount of study and preparation can develop him into a successful practitioner. Whether this be true or not, matters little, so long as so large a proportion of the members of the profession prove by their works that the best energies of their lives are devoted to the furtherance of its missions of mercy. Of no other human calling can it be said that the individuals comprising it devote their time, and health, and talents, to objects which, if accomplished, must curtail their own emoluments, and lessen their individual consequence, as

do the members of our profession in promoting a knowledge of the laws of health, and urging forward sanitary measures to prevent the sickness that if permitted to supervene, would put money in their purse and add to their personal consequence.

During the forty years that I have been in the profession, many changes have taken place, a few of which, while you bear with me, I will enumerate, but it will be impossible to give more than a glance even at these few, for ours is a progressive science, and after centuries of wrangling over theory and dogma, we have learned to take truth wherever we find it, and apply it to the healing of the sick, regardless of its origin. We have learned to be taught even by an enemy, and some of our most valued progress has been made under the flagellations of professed enemies. We have progressed quite as much in unlearning hoary errors as in finding new truths, and it is suggestive of the philosophy of the times and of its influence on our profession, that no theory or dogma is so sacred that we will not abandon it as soon as we find that it has been founded upon insufficient or false data. The advances made in the methods of study and observation have made many changes in what was once the standard literature of the profession, which, from being confined to a few text books and monographs, has, from the immense strides of discovery and experiment, become simply enormous. Changes have come, but all change is not progress, and most of the book-making of our times will prove but vanity and vexation.

There have been many contributions of real knowledge added to the discoveries of the fathers, and the experience of their successors, and there are still more suggested or asserted discoveries in the several branches of science that constitute the basis of scientific medicines, which are on trial, and we should bring to the investigation of them minds free from bias, and subject them to prolonged critical examination and experimentation, before accept-

ing them as articles of faith and practice. There can be no doubt that many erroneous ideas, and erroneous practices based upon them, have prevailed in all the history of the profession, and it is too much to hope, that ours can ever become one of the positive or exact sciences, for the reason that we have to deal with that subtle entity, or correlation of forces, which we, for want of a better name, call vitality.

Science aided by chemistry, the microscope and vivisection, has done much to elucidate the opinions held, relative to organizations and their functions, and separate apparently simple organizations into many parts, but still the doubt remains, whether these apparently ultimate parts are not capable of farther separation, proving their still complex nature and diversified individuality. A fair example of my meaning will be found in the changes of opinion, fortified apparently by experiment, on the nature of cell life and cell development, that have taken place in the last forty years. We thought we had it all settled then, but now we are not quite sure whether even our present demonstrated truth may not prove the threshold demon guarding the entrance upon secrets still beyond.

There is a strong probability that some of the so called new discoveries in cell life, are but the rehabilitation of old friends under new names, for there is a mild mania which leads experimentists and monographists to coin new and strange names, made from the skimmings of the old Greek cauldron, and applied to things already named from the same source, but observed under different circumstanccs, with different instruments and appliances.

There can be nothing more deceptive than the results of observations under the microscope, obtained by different observers, and with different instruments. One observer finds certain well defined objects under his object glass, and with the aid of the camera, figures them in his book, and straightway certain other observers deny the

existence of such objects, because their eyes and instruments do not discover them, but something totally different. In this difference in results, all the observers may be equally honest, but in all microscopical experiments with instruments of very high powers, there must necessarily occur different results, and this will continue till all the eyes of observers are equal in eliminating force, and an optician makes a perfect microscope. With instruments of lower power, all eyes will see alike.

The difference in the power of audition, on the part of auscultators, gives to the diagnostician a world of trouble in diagnosing diseases of the heart and lungs. It is a fact, that very few ears are attuned to distinguish distinctive differences of sounds, and the same sound will be given a different signification by different persons, and if these persons happen to be specialists in chest diseases, these definitions and comparisons of sounds indicating the same lesion, will be most bewilderingly confusing to the pupil who tries to follow all the best authorities. Another source of bewilderment to the tyro, is the different sounds observed in patients, laboring under the same disease, with apparently the same local lesions as manifested by the general symptoms, and he thumbs one great authority after another, to enable him to reconcile the irreconcilable.

There are a few simple sounds that may be relied upon as diagnostic of the same lesion in a great majority of cases, but those finer combinations of sounds that are affected by many so-called specialists, as certainly diagnostic of certain well defined lesions in every case, are entirely too scientific for the ordinary professional tact. A very great number of these "shaded sounds" belong to cases that never die of the disease diagnosed, and without an autopsy there can be no verification of the diagnosis. Resonance and dullness on percussion, may be detected and mapped out by the ordinary ear, so may the crepitus, and the dry and mucus rales of bronchial dis-

turbance, and the bellows and sibilant, or whistling, and the amphoric sounds of cavities in the lungs.

So also, the ordinary ear may detect certain changes in valves of the heart, as well as the crasis of the fluid passing through them, and detect exaltation or diminution in the heart's force, but many of the sounds of the heart are similar in different lesions of the organ, and not unfrequently fatal disease of the heart goes on to final catastrophe without being detected at all. Far be it from my object to depreciate the importance of the real contributions of microscopy and auscultation to our means of investigation and diagnosis; but the confidence with which some specialists utter their dicta to the profession, as being ex-cathedra, makes it necessary to take cognizance of the fact that sights and sounds are sometimes uncertain, and the perceptive power of even the most gifted of men are limited.

It may be taken as a rule, that the man who draws the finest distinctions, and detects the slightest changes from normality, in making a diagnosis, is very human, and liable to err. There have been many noted improvements in the art of surgery, prominent amongst which are Esmarck's bloodless operation, and Lister's antiseptic methods. There are not two opinions as to the advantages of bloodless operations, but there is great diversity of opinion amongst leading surgeons as to all that is claimed for Listerism. On the one hand, Lister and his followers produce the evidence of statistics, to prove that the antiseptic method reduces the rate of deaths from operations of all kinds, while the doubters claim that the same measures to secure cleanliness and exclude disease germs, will give as good results without the carbolic spray and complex dressings. However the question may be decided in the end, there can be no doubt that greater care in the preparation of the patient before the operation, and the exclusion of possible disease germs, will materially reduce the death rate from operations; and yet, some of us here

present have seen operations of the gravest character performed with dull knives, dirty hands, filthy sponges, soiled towels and sloppy water as accompaniments, and the patients have made phenomenally good recoveries. When a patient has been operated upon after Lister's method and recovers, it is claimed as a success for Listerism, while, if he die, it is asserted that some small part of the pure Lister minutiæ was omitted. Surgeons will, for a long time, be divided on the question of, to spray or not to spray, but the general proposition of complete cleanliness, as adjunct to all operations, will not be disputed, and it is more than probable that the exclusion of water from cut, or abraded surfaces, in operations, may find some able advocates, on the principle that pure blood is the best dressing for fresh wounds, and the best bond of union, when cut surfaces are placed in opposition. Certainly water freely applied to wounded surfaces that should unite by first intention, dilutes the blood, washes out the albumen and fibrine, and blanches the surfaces so as to render union by agglutination very improbable.

It is barely possible that the action of carbolic spray on Lister's plan, partially coagulates the albumen, and fixes the fibrine of the blood upon freshly cut surfaces, and thus obviates the bad effects of pure water, and facilitates agglutination. Long before Listerism was announced, I had been in the habit of avoiding the application of water-soaked sponges to surfaces intended for union, and before placing the parts in apposition, I smeared the surfaces with a glycerole of carbolic acid, one part of the acid to seven of glycerine. The effect was to coagulate the albumen of the effused blood on the surfaces, turning it a dull white, and after mopping off all redundant moisture with a clean dry towel, I closed the wounds, and never had any but the most satisfactory results. We have now a prepared antiseptic absorbent cotton that promises to supersede, as a top dressing, all more filthy and complex dressings to fresh wounds.

Within the past quarter of a century, a new department has been added to the circle of the sciences and art of medico surgery. I allude to gynæcology, and a large class of diseases and disabilities that overshadowed the lives of thousands of "Heaven's last best gift," has passed under its rule, to become amenable to treatment and its resulting restoration to health.

Twenty years ago, gynæcology as a separate department in the science of knowing, and the art of healing diseases of unimpregnated woman, was almost unknown in the profession. It had no literature, and its pioneers were almost tabooed from the higher circles of scientific physicians and surgeons, and their researches and methods were sneered at as immodest and immoral.

The speculum uteri was denounced as a most shameful invention to violate the modesty of the sex, and exposure of diseased reproductive organs, a shameful invasion of the sanctity of nature's arcanum. Fortunately alike for science and the victims it sought to help, the victims themselves could see no impropriety in placing themselves unreservedly in the hands of those who sought to help them, and submitting to all the necessary investigations and applications for a correct understanding of their maladies and the means of relief; and to-day some of the highest minds and most skillful operators in the world are found in the ranks of the new department, and thousands upon thousands of women, redeemed from woes unutterable, live happy enjoyable lives, returned from the borders of Hades, to bless the lives of those to whom they are all in all of human felicity.

Having been one of those who arrived at a practical knowledge of many of the leading truths in gynæcology, through much tribulation, twenty-five years ago, I can speak from experience of the disappointments attendant upon those who in those days departed from the beaten track of self-satisfied conservatism. But there is danger of having too much of a good thing, and the very suc-

cesses of early gynæcologists, have invited many to enter upon the practice of gynæcology, without having previously acquired an experience in general practice sufficient to fit them for a specialty so wide reaching in its relations to the general economy of the sex.

Within my own recollection, the transient literature of the profession has grown from a few meager monographs, into colossal proportions. Forty years ago the journals were all quarterly, half yearly, and annual. The American Journal of Medical Sciences, the New York Journal, and one or two others, comprised the whole journalistic literature on this side of the Atlantic, while the London Lancet, Braithwaite's Retrospect, Ranking's Abstract, and the British and Foreign Medico-Chirurgical Review, constituted all the foreign journals re-published in this country. Now the journals are legion, and published monthly, fortnightly and weekly, and all are filled with new and interesting matter. But here again there is a tendency to plethora, and much of the matter published is introduced more to fill up the columns than to convey new or useful information. Many contributors have not read what has been published long ago, and as soon as they find something new in their experience, take for granted that it is a discovery, and rush into print and cackle over it like a pullet over her first new laid egg, as if there never was such an egg. Time and further experience will correct this tendency in most men, but there will always remain a few, who are constitutionally scribbleomaniacs, for whom there is no sure cure.

Another comparatively harmless form of idiosyncrasy prevails largely in the profession, which consists in believing that because a patient has been very alarmingly ill, and got well under the use of certain remedies, therefore he got well because he used those remedies. They do not seem to remember the most alarming of acute diseases are self limited, and run in a circle ending in health, or that where there are evidences of dangerous tendencies in the

course of the sickness there may be several entirely different and equally successful methods of averting the danger. This is the class of physicians who publish sprightly letters to the journals, telling of the magic results following the use of new remedies, or, from a single case, argue the general applicability of the remedy to all similar cases. This class of physicians are always looking for a medicine that *will cure*, instead of trying to understand the true nature of the perverted life force that we call disease, and studying the means indicated to restore the functions of the suffering organs, so as to enable them to effect the cure in nature's own method, the only way in which cure is possible.

Some of the new journals are ostensibly medical journals, but are really little more than advertising adventures, to bring into notice certain new remedies, or proprietary mixtures or pills, to the profit of the inventor or manufacturer. Some of these are sent us regularly as *specimens*, till our tables are littered with testimonials from leading physicians and theologians, bearing witness to the efficiency of certain proprietary medicines or mineral waters. Even that much abused creature, cod liver oil, is subjected to the tortures of the alembic, and comes to us bespangled like Joseph in his coat of many colors.

Of course, some of these are meritorious in themselves, and justly deserve approval and use, but like everything else, the business is overdone, until cod liver oil combinations are published in the secular papers as a sure cure for consumption and scrofula, and the popular mind conceived that a means so much used by the profession in suitable cases, must needs be suited to all cases, and so, to use a phrase frequently heard by us, a patient will tell us he has taken gallons of cod liver oil without benefit. Still amongst all this rubbish there will be found some grains of pure merit, and we must submit to the process of its elimination with such grace of patience as we may.

All through the ages, since the days of Hippocrates,

there have arisen men in the profession, who have promulgated new doctrines, and announced radical departures from the empirical teachings of experience, in some instances placing themselves at the head of a *new school*, and giving themselves out as apostles of new science, and they have had their followers and disciples, and flourished for a time, but gradually their lights paled and ultimately died out, leaving only a record of their names and failures on the pages of the history of true experimental medicine.

The whole of these so-called schools were based upon a single idea, around which their professors collected a series of facts and coincidences to prove their truthfulness. Indeed, some of those schisms had quite a quantity of truth in them, and the result was that by exalting one truth to the exclusion of all others, they drew after them a considerable following, and thus the profession was divided for long periods of time into sects and schools, and the jarring sectaries turned their energies against their rivals, instead of pursuing their investigations into the arcanum of nature, to discover, if possible, whether there were not valuable truths outside of both their own creed and that of their rivals. But after the originators of the new schools and their immediate personal friends and partisans passed away, the professional mind swung back into the old and safe path, of trying all things, and proving all things. Whatever of truth was contained in the dogmas of the schools was retained, but incorporated with other truths, to form a body of doctrine that could be substantiated by the severest tests of science and experience.

There has never been one of these tangental offshoots of Hippocratic medicine that has not lopped off some crudity from the tree of knowledge, or left some shoot of truth, that properly engrafted, has not borne good fruit in after years. Leaving out the details of the older in-

novations, we will allude only to those of our own day, Thompsonianism, Preissnitzism and Hahnemanism.

Thompsonianism took its rise from an obscure non-professional source, and aimed its shafts at the notorious professional abuse of the lancet and mercury. Thompson railed against all depletion, except emesis, and against all metallic remedies of every kind. He promulgated a vegetable materia medica, pure and simple, and rung the changes from lobelia to elecampane and number six. He was followed by that crowd of enthusiasts who having more zeal as iconoclasts, than knowledge of the art of substituting better objects of worship, and his principal followers were the disciples of Alexander Campbell, the founder of the sect of Christians who, from being known as Campbellities, are now known as the "Disciples." The first Thompsonian doctors were men who had failed of success in other callings, and felt a *call* to be a doctor, and having no preliminary education, or at best, but a smattering, were for a long time subjects of ridicule, but after a time, some men of considerable education were found amongst them, and they changed their designation from Thompsonian to eclectic physicians, and established some Eclectic Medical Schools, and devoted their energies to the study of the medicinal properties of vegetables, and had their provings and experiments, and have given us to-day some of the most valuable vegetable alkaloids in our materia medica, while they themselves have gradually ceased to be exclusively herb doctors, and in many cases assimilate with the regular profession, and are no longer "New School Doctors."

The school of Preissnitz was of German origin, and during its short period of aggressive practice accomplished a great deal of good to the profession and the world at large. Previous to the advent of the water cure there was a mild form of hydrophobia, which prevailed all over the world, and made it almost impossible for the intelligent physician to prescribe water externally or internally in

the treatment of disease, because the popular mind inclined to hot measures, and had a horror of taking cold from the application of cold water. In disabusing the public of its foolish prejudice, the water cure redeemed many thousands of filthy people to habits of personal cleanliness, by soaking themselves in wet packs for several hours daily, and gave the profession carte blanche to avail itself of the popular wave, and use cold water as an agent of very great power when properly applied. But being a very potent agent, it sometimes chilled a feeble patient to death in the pack, and not satisfied with the original simon pure water cure, its votaries added a rigid system of antiphlogistic dietetics indiscriminately to all comers, and many feeble patients, who might have survived the pack, the douche and the sitz bath, succumbed to slow starvation. As a system, or school, it is rapidly passing into history, but its real adaptability to many varieties of inflammatory and febrile diseases has descended as an heir-loom to those who, aided by a knowledge of correct principles, use it with skill and judgment.

In the latter part of the first half of the present century, another German innovation upon the practice of the profession was made by Hahneman, and his disciples. Not satisfied with modifying the practice within the profession, Hahneman proclaimed a *new departure*, founded upon the principle, that diseases, or rather symptoms, should be treated by remedies that, given in poisonous doses to healthy subjects, produced symptoms similar to those produced by disease, and formulated his system of therapeutics upon the principle of "Similia Similibus Curantur," and denominated it "Homeopathy," and in order to give it more eclat as an entirely new departure, he unblushingly asserted that the regular profession practised entirely upon the opposite principle; that diseases should be treated by remedies that produced symptoms the opposite of those resulting from disease, and the principle of "contraria contrariis curantur" was the guiding

rule of practice in the regular profession, and in contradistinction from his school, called it "Allopathy." However much truth there may have been, in alleging that, after the teachings of Galen, who believed that all diseases originated in the fluids, and should be treated by such medicines as counteracted the poisons therein, some of the members of the profession practiced on the principle of using opposites, yet for many centuries physicians have been emancipated from the Galenic dogma, and for more than two centuries there have been no savants in the profession, who have taught Allopathic doctrines. The truth is, Hahneman set up a man of straw, that he might have the glory of knocking him down, to the great admiration of his followers and disciples. There need be no better evidence of this, than the persistence with which the votaries of Similia, shout their battle cry of "down with Allopathy," while they know, if well informed, as some of them undoubtedly are, that there is not, and has not been an Allopathic school in the profession for centuries. But it is so easy to fight a foe long since dead.

This is the more to be deplored by educated physicians of the Homeopathic faith, because there is enough of real merit in their ranks and doctrines to make such clap-trap sham battles unnecessary. Much of this controversial bitterness has, no doubt, been provoked by unjust and ungenerous attacks on the part of over zealous regular practitioners, and it is to be hoped that such controversies, as useless as they are uncalled for, will gradually cease. It is very true that in many instances agents that produce symptoms similar to those produced by disease when given in broken doses, give relief, but it is not universally true, nor is there a sufficient quantity of truth in it to justify any one in making it the basis of an entire new departure in the practice of a profession that has been struggling after truth for more than two thousand years. There is no school in the regular profession, and long ago the professorships of *theory* were abolished in all regular

Medical College. The profession is entirely philosophically empirical, and refuses to adhere to the teachings of any men, or set of men, beyond the point of certain and impartial demonstration. There is not a solitary proposition brought forward, that is not subjected to the severest analysis by the whole profession, and there is not now, nor ever has been in the world, a set of men so thoroughly independent in their judgment of testimony, as those constituting the great body of the medical profession of to-day. It needed a reformation, and Hahnemanism is giving it a wholesome lesson in more ways than one, as we shall see anon.

At, and long before the advent of Hahnemanism, the profession, to a great extent, entertained a belief in the entity of disease; that it was an enemy that had obtained a lodgment in the system, and was to be driven out by heroic treatment, and immense doses of remedies were administered to expel it "*vi et armis.*" Any dose that could be borne, short of actual poisoning, was administered, and on the principle of cutting off supplies, blood was withdrawn in killing quantities, and the patient put on starvation diet, to lessen the resistance of the vital forces. In this condition of things, Hahneman, in his days of dotage, improved on his "Similia" by the adoption of infinitesimal triturations and dilutions, and for the first time in the history of our art, we had the opportunity of witnessing the progress of disease, uninterrupted by attempts at cure, for the infinitesimal doses of Hahneman simply amounted to letting nature severely alone, while the disease ran its natural course, and shewed itself, *self-limited.* It is no longer necessary to discuss the folly of infinitesimalism, for there are now quite a number of educated men in the ranks of the Hahnemanists, and they are emancipating themselves from the thraldom of their founder's dogma, and claim, that while they still give small doses frequently repeated, the doses are decidedly *appreciable*, and in this, very many of the members

of the regular profession imitate them with very satisfactory results, and the improvements made in the forms of administering the active principles of medicines by the manufacturing chemists, render their administration available, without disgusting the patient with nauseous doses.

There is a manifest disposition on the part of the Hahnemanists to return to a rational practice, and the better educated among them use anæsthetics, and the hypodermic syringe, and declare that they have as much right to use all the later improved methods introduced by the regular profession as the members of the profession have, and in this they are perfectly right, and show some glimmering of that common-sense which, in all time past, has brought back men practising dogmatically to a common scientific basis, founded on those eternal principles that underlie all improvement in the art of healing.

The better informed use the text-books of the regular profession on all branches but that of therapeutics, and even in their schools, the works of Ringer and Phillips are text-books in therapeutics. It may then be taken for granted that the grand distinctive doctrines of Hahnemanism are undergoing revision amongst his followers, and if they are met in a kindly spirit by the profession, an ultimate relegation of whatever truth remains will be absolved by scientific medicine, and the profession benefitted to that extent, while all that remains of *pure dogma* will be abandoned by all reasonable men, and retained only by a poorly educated and superstitious remnant. Meanwhile, the grand old profession will move on, its banners inscribed with a roster of the names of its great lights, and the enumeration of its discoveries and inventions for the amelioration of human suffering, its efforts to teach the nations the laws of health, whereby great epidemics will no longer depopulate and lay waste whole provinces, desolating a nation in a night, leaving lamentation and wailing the mournful heritage of survivors.

No longer bound in the fetters of pure dogma, it moves along, a mighty republic of intellect,—

> "Seizing upon truth wherever found,
> On Christian or on Heathen ground,"—

every member a priest unto himself and for himself, ministering at the altar of science with no iron-bound confessor of faith to fetter free thought and paralyze experiment, and yet, all assisting in one common cause, exclaiming that in the domain of truth—

> "No pent-up Utica confines our powers,
> The whole boundless universe is ours,—

and saying to every member, work while it is day ere the night cometh, and so live that when thy summons comes to join—

> "The innumerable caravan that moves to the pale realms of shade,
> Where each shall take his chamber in the silent halls of death,
> Thou go not like the quarry slave at night, scourged to his dungeon,
> But sustained and soothed by an unfaltering trust, approach thy grave,
> Like one who folds the drapery of his couch around him
> And lies down to pleasant dreams."

ADDRESS OF THE PRESIDENT.

ALEX. J. STONE, M. D., ST. PAUL.

Gentlemen of the State Medical Association:

In accordance with custom I am expected to address you, and place before you such suggestions as may have occurred to me during my term of office, and which will, in my mind, tend to the advancement of our Society or to the honor of our profession.

Of the advancement which our profession has made in almost every field since our last meeting, I do not feel called upon to speak; I should but imperfectly summarize facts which are familiar to all of you, and in a much less eloquent manner than it has been detailed by others within the past few months.

I am satisfied from my observation during the past year, that no suggestion is needed from your President to ensure active work and hearty co-operation upon the part of every individual member of the Society, to the end that this Association may honor the profession in its existence. But, after deliberate consideration, I do feel constrained to call your attention to the written law which is supposed to govern our actions in all matters professional. In drawing your attention to the "code of ethics," and in asking you candidly to consider such criticism as I shall present to you in no carping spirit, I am aware that I am treading upon what seems to be forbidden ground.

The code, since its final adoption, has apparently been laid upon the shelf by the side of the family bible, to be treated with almost as much reverence, to be read quite as seldom, and to be quoted only when its provisions enable one to discipline a rival, or to exclude him from the benefits of professional affiliation.

A judicial consideration of the code forces a conclusion that much which it contains is gratuitous insult to the profession, and more, is rather calculated to amuse than to impress with respect the mind of the layman.

There is not a clause or sentence in the first two articles which is not absolutely true; but, should the self-evident truths contained in article I be held constantly before the physician, as if by nature he was a brute who is to be taught the ordinary laws of humanity, a fool who must be taught a wisdom in the management of his patients which instinct alone would inculcate; a knave who must be withheld from epiricism; or a man without the instincts of a gentleman?

Granted that men enter the ranks of the profession to whom the epithets of "fool," "knave," or "clown," apply, of what value are the platitudes concerning brotherly love, or to what good is a formulated code defining the relations of medical men to the public or to each other? Among gentlemen such a code is unnecessary; among pirates it only serves to foster a cathauling hostility; as between a gentleman and a pirate, any difficulty which may arise is not to be satisfactorily settled by a reference to any code, because the standpoints from which each look at matters differ too widely—nor are the penalties which the code imposes such as to deter a real rascal, nor is that unsovereign body, the medical profession, able to enforce its laws rigorously.

In general, the same criticisms apply to article II, where, hidden from their sight, are instructions to patients upon points which can only be determined by individuals and their circumstances; and I fear that, in a large majority

of cases, the patient would resent as an impertinence the existence of this portion of the code, were his attention once called to it.

"*Of the duties of physicians, for the support of professional character*," section 1 contains, in my judgment, an unsound element of legislation, inasmuch as it requires all members of the profession to "observe strictly such laws as are instituted for the government of its members." While, in a limited sense, this is all well enough, yet, extended too far, it is vicious, and tends not only to impair the usefulness of the profession, but is repressive in its effect upon the genius and independence of progressive men.

To the clergy, who deal simply with faith, dogma is necessary, but we, who deal with facts and the practical application of their conclusions, are peculiarly exempt, by the very order of nature, from any provisional code which subjects, or claims the right to subject, our thoughts or methods.

Section 3 has, perhaps, been more frequently the cause of wrangling and the pretext for prosecutions than any other section in the code. No section is more openly and constantly violated, and with greater impunity, than this one.

In this city, I believe it to have been violated at least once monthly by one regular physician for the past twelve years, and yet the individual has never been brought to task for his delinquencies by either the State or County Society, of both of which he is to-day a member in good standing, and I believe the reason to be that the large majority of the members of the societies do not believe in the justice of the law, or occasionally evade its provisions themselves, or, to their credit be it spoken, are not willing to use the law as a weapon with which to avenge personal grievances. Any one may advertise his craft to an extent and in a manner which is disgusting, but in the medical profession the boundary beyond which one cannot step

without breaking the rules of decency must of necessity be very sharply defined. One cannot advertise his brains as he can merchandise. But that the specialist should be prohibited from calling attention to the fact that he is practising a specialty, or that the regular physician should be prohibited from advertising his place of business and business hours seems to be an absurdity. In cases of accident or of grave surgical operations, where peculiar circumstances attending the patient do not, through motives of delicacy, render their publication inadvisable, I believe that as a matter of news called for by the public, the press has the right to all the particulars, including the names of the physicians in attendance, and that the particulars should, as a matter of justice, to prevent error, be furnished by the physician himself.

The press of to-day is the power of the land. It is the great educator and the great leveler. It makes and unmakes more men than any other influence. It pricks bubbles and inflates them; its good will is eagerly sought by the clergy; is heartily appreciated and utilized by the lawyer; and through its columns even the usefulness of the army is aided or impaired. It is at once the greatest aid to true religion, and the greatest enemy to sham; the greatest power in forcing justice through the moulding of public sentiment which sits behind every jury, and the greatest stimulant to patriotism in the ranks of the army.

To every profession but the medical, the record of good work done, the praise, the blame, is a stimulant to further exertion, to better action—and withal a powerful lever to use in forwarding the honorable and legitimate ends of their professional life.

I do not here argue that it is, or is not, decorous to advertise, but that it is not in the province of a code to determine the question. If the code were abolished, but a short time would elapse before the good sense of the profession would, through an unwritten law, much more powerful than any written code, settle the question emphatically,

and he guilty of constant violation of good taste speedily be ostracised from professional affiliation by common consent.

Article 4. *Of the duties of physicians in regard to consultations;* section 1 states a truism in holding the only professional evidence of professional abilities and acquirements to be a regular medical education, or a stated equivalent thereto, but the policy of its deduced conclusion that all others should be excluded, is doubtful.

The first duty of the profession is to the public. Any step, therefore, which it can take to secure public welfare, is taken in the right direction. The avowed object of this rigorous exclusion of all irregular practitioners from the benefits of consultation is to set the seal of public disapproval upon them, and indirectly to force them out of professional existence, in the interests of public welfare. That this result is devoutly to be hoped for, I am the last to dispute. But does this means best accomplish this end? Or, does this method appear to the public rather in the light of persecution, and therefore, in reality, tend to keep them in existence, upon the principle that the blood of the martyrs is the seed of the church?

The law of the survival of the fittest should nowhere hold good to a greater degree than among medical men, regular and irregular, and if, with our vaunted superiority, we fail to survive when put to the test of bedside association, then, and then only, can we be justified, as a matter of self-protection, in holding aloof from them, and insisting upon the rigorous enforcement of the rule above quoted.

Many a life, valuable to the State, is sacrificed through unwillingness of the patient to wound the feelings of an irregular practitioner by a dismissal and the employment of a regular (a step, which with his limited knowledge of the relative value of his attendant's services as compared with those of some regular, seems to be a leap in the dark), and inability to procure a consultation from the

regular which would not only save his life, but illustrate the difference between one who, after a regular education, was at liberty to utilize the accumulated wisdom of all men, and to prescribe any medicine in any dose which seemed to him wisest, and one whose teaching limits him to the practice of a dogma to the exclusion of many an indisputable fact—or worse, with one who has had no teaching to limit him to anything.

We may, perhaps, feel the freer to discuss this matter from this standpoint, inasmuch as so conservative a journal as the *British Medical* has opened its columns for its discussion. In my opinion, the code, as it stands, obliges us to protect the "regular" ignoramus sometimes to the detriment of his patients, while failing to permit the educated regular the use of the powerful weapon, knowledge, ever ready at his command for the discomfiture of the irregular practitioner.

As to the remainder of the code, I can but ask the question, *cui bono*. Do we need to be taught that we should treat each other as gentlemen? That we can commit a greater larceny than that of purse? That it is more our duty to prevent than cure? If these questions must be answered in the affirmative, then is our vaunted nobility—upon which so many changes have been rung—a myth.

Conservative men, and, indeed, all who oppose the reformer or reviser, are prone to call him an iconoclast, and to inquire what he will set up as better than that which he has cast down. The most powerful government of the world to-day has no written constitution, and our country is fast drifting towards the same condition. Unwritten law is everywhere more powerful than the written. I would destroy the written code, that one unwritten, of vastly more force, might arise from its ashes, and would suggest as a remedy for the evils for which it endeavors to provide, the one omnipotent force in man—knowledge. I would insist upon such preliminary education before the

student entered upon his medical course, that not only was his mind fitted for the reception and retention of the vast truths of the science, but his moral nature developed to such an extent as no other means can accomplish; and his gentlemanly instincts brought out and enlarged, as constant intercourse with scholarly men during his academic course cannot fail to do. Then such a medical course should be insisted upon as would leave no superficial training, no cramming of facts for special occasions, to be forgotten as the occasion passes—but a course of instruction passing over a period of from four to seven years—which is the minimum time in which a knowledge of our science adequate to our duties can be obtained. The first generation of such physicians would need no code to teach them to be men.

But some of the evils which our code attempts to reach cannot be cured by elevation of the professional standard, and we will find it necessary to apply the touch-stone to the people. Insist that the children shall be taught anatomy, physiology, and chemistry, *pari passu* with their ordinary studies, increasing their knowledge in these branches proportionately as they advance in their academic studies, until they are prepared to understand and efficiently assist the scientific physician in his effort for their welfare, and are able to recognize of their own knowledge the educated scientist from the dogmatic ignoramus.

Throw aside all superstition attached to the profession of medicine, take time and pains to make its positive laws plain and simple to the popular mind, use the press and the platform to educate the masses up to a point where they can use their reasoning powers upon our profession as upon other matters concerning their daily welfare. The first generation of such men and women would never hesitate between quack and scientist. Evils exist in and out of the profession which no code, written or unwritten, can reach. Peculiarly do they exist in this country, where

constant immigration from the most ignorant classes of the old world is encouraged. Here, paternal government and restraint, if in the spirit of our institutions it be ever justifiable, is surely right, and for the protection of the people unable through ignorance to protect themselves, the State should legislate that no physician shall be allowed to practice within its boundaries until he has given evidence of his thorough qualification.

In presenting these thoughts for your consideration, I do not wish to be understood as advising disobedience to the code so long as it exists as the law of the profession. For more than twelve years I have practiced medicine among you, and I defy any physician to say that I have ever violated the code in letter or spirit; and so long as it continues the law, I shall render obedience though questioning its wisdom. I trust that I may yet see our code abbreviated to one which simply requires every member to so conduct himself as becomes a physician and a gentleman.

SURGERY.

R. L. MOORE, M. D., CHAIRMAN—PRESENTED BY C. A. WHEATON, M. D.

Mr. President and Gentlemen of the Society:

About three weeks since, Dr. R. L. Moore, of Spring Valley, the chairman of your Surgical Committee, notified me that he would be unable to give his time to the report of said committee, and requested that I assume the role of chairman and prepare the report. I must crave your indulgence, as the time allotted me has been too meagre to allow of any special preparation, and I have been unable to confer with the other members of the committee to mature any special plan. Dr. Moore has sent a short paper on the treatment of minor wounds. The usual notices have been sent to the different members of the Society, asking for contributions on surgical subjects, and with what result, the following papers will indicate.

CASES REPORTED BY C. A. WHEATON, M. D.

CASE I.

Amputation of the Rectum and Extirpation of the Larynx in the same subject.

C. J., American born, 35 years of age, cooper by occupation; good habits; antecedent record free from physical taint. Entered St. Joseph Hospital last July for the pur-

pose of undergoing treatment for an ulcer situated at the margin of the anus. He was anæmic and cadaverous. Had a furred tongue, small, quick pulse, poor appetite, and suffered almost constantly from diarrhœa. His voice was slightly husky and he had an occasional hacking cough. Careful auscultation of the chest gave negative results, and as he said he was just convalescing from a cold, I paid no special attention to the throat symptoms. Never had suffered from night sweats or spitting of blood.

Ulcer extended backward upon the right buttock about three-fourths of an inch from the anus; measured about two inches in its widest part. Specular examination showed that more than as much as was exposed existed within the sphincter, the induration extending within one-fourth of an inch of upper border of internal sphincter. Ulcer possessed indurated margin; was much excavated and covered with a tenacious, unhealthy pus. Bled profusely with the dejections, and at such times was very painful.

In December, 1879, he first became aware of the existence of a small papule at the point of junction of the skin and the mucous membrane, on the coccygeal margin of the anus. After about six weeks the papule became pustular, and discharged pus until the following May, when he underwent an operation for fissura ani. So far as I have been able to learn, the operation consisted in the division of the superficial fibres of the sphincter and the application of lunar caustic. The resulting wound never healed, but developed quite rapidly into the ulcer I have described.

On the 28th day of July, 1880, kindly assisted by Dr. J. H. Stewart and Dr. Jay Owens, I removed the deposit. Patient, under ether, was placed in Sim's position, and operation began by stretching the outlet with the thumbs. Sim's speculum was then introduced, and the tissues to be removed marked out by an incision with the scalpel. The outer and lateral borders were then dissected up, and as

the sphincter was freed from its attachments the gut was prolapsed by traction as the dissection progressed, until the upper margin of the diseased tissue was reached. The tissues connecting the loosened portion of the gut above were then transfixed with a needle carrying a double ligature, and the pedicle strangulated by tying both ways.

The removal was now completed by dividing the connecting band just below the ligatures. Operation lasted about forty minutes—there were but five vessels requiring ligation. Not more than ℥ vi or ℥ viii of blood was lost. Dressing consisted of a rectal tampon held in position by a T bandage. Oozing was entirely controlled by this means. Was ordered gr. i opium pill every two hours till quiet—liquid diet and rest on the side. An annular band of the internal sphincter, about one-fourth of an inch in width, was left intact. About two-thirds the circumference of the gut was removed, and that much of external and internal sphincter, including the levator ani. Operation was completed at noon, and at 4 P. M. he had rallied from the ether, and was comfortable. Pulse slightly accelerated—temperature normal. During the night the anal plug was displaced, but no hemorrhage ensued. Bowels were restrained until the eighth day, by opium, when they opened spontaneously, taking the ligatures with the discharge. No bleeding. He was allowed to move about the ward on the fourteenth day, and on the nineteeth to go to his home in Minneapolis. Bowels, since the eighth day, have moved daily—passages natural, and without pain. Cicatrization rapidly progressed, and wound filled with healthy granulation. At the time of his discharge he could not retain flatus, but could fœces sufficiently long to reach the water-closet. On the 22d of August, just twenty-five days after the operation, he came to consult me about his throat. I prescribed for him, without using laryngoscopic mirror, still believing his trouble was only one of the sequelæ of the cold from which he had

previously suffered. August 25th he again came to me more distressed than ever; said he was unable to swallow without strangling. Couldn't swallow solid food at all, and liquid only when lying on the back, and then with much pain. Could speak hardly above a whisper, and raised blood in small quantities when he coughed. Laringoscopic examination yielded the following results: Epiglottis was much thickened and notched deeply at its superior border, at its left base could be seen an excavated dirty ulcer; the left arytœno-epiglottic fold was thickened and eroded; epiglottis itself was about one-third shorter than normal.

After the above investigation he was examined by Drs. Hand, Stewart, Leasure, Stone, Owens, Jones and Dr. French of Minneapolis, to which latter gentleman I was indebted for the case. All of the above gentlemen concurring in the diagnosis of epithelial disease, Mr. J. was made acquainted with his hopeless condition, and of my inability to promise permanent relief. In response to the question, as to whether some operation could not be made to relieve his suffering and prolong his life, I suggested the one possible, but highly improbable avenue of escape, viz.: that of the removal of the larynx. He decided to take the chances of the operation, saying that if death did result, it would be easier with than without it. On the 5th day of September, ten days after the discovery of the neoplasm, the extirpation was effected, the following gentlemen being present: Drs. French and Dunsmoor, of Minneapolis, and Stewart, Hand, Leasure, Stone, Richeson, Owens, Davenport, and Abbott, of St. Paul. The patient, thoroughly anæsthetized, was placed on the back, and tracheotomy done. Wendelenberg's tampon canula was placed in position in the trachea below the isthmus of the thyroid gland, an incision in the median line, extending from the isthmus, nearly to the inter-clavicular notch, was found requisite to the success of this part of the operation. A large venous plexus

lying immediately upon the trachea required ligation, and much delayed the introduction of the canula. After the first spasmodic breathing, incident to the opening of the air tube, and the dilatation of the rubber chemise, the respiration became natural, and the etherization was continued through the neck. I found it impossible to use inhaler accompanying the canula, as the ingress of oxygen was too limited to prevent asphyxia. The next incision was made, also in the median line, commencing a little above the hyoid bone, and carried downward to a point just below the cricoid cartilage. The omo-hyoid and sterno-hyoid muscles were divided at their hyoid attachment, and the thyro-hyoid and sterno-thyroid freed from the thyroid cartilage, thus leaving the larnyx free anteriorly. It was now found impossible to work to advantage without prolonging my incision downward, which was done to the tracheal opening. The thyroid isthmus being depressed with a retractor, the trachea was divided just below the second ring. The separation of the cricoid cartilage and larnyx, from the œsophagus, was found an undertaking of much labor, and was the occasion of sharp hemorrhage from the recurrent laryngeal vessels. It was however accomplished, without injury to the underlying tube. Next, cleaning off the attachment of the inferior constrictor, and the stylo-pharyngeus, the vocal box was left free, except the thyro hyoid ligaments and membrane, and the glossal attachments anteriorly; these structures were divided in succession with scissors, and the larnyx lifted from its resting place, exposing extensive morbid deposit in the anterior wall of the œsophagus, extending upward toward the posterior pillar of the fauces on the left side, and also upon the pharyngeal border of the tongue, at the base of the epiglottis. The wound was now enlarged by a right-angle incision extending nearly to the left sterno-cleido-mastoid, thus giving free access to all the diseased structures, which were as thoroughly excised as possible.

It was during this stage of the dissection that the hemorrhage was most alarming. The anterior œsophageal wall was sacrificed to the extent of nearly an inch. Fifteen ligatures were required to control hemorrhage, and ten sutures to approximate the edges of the wound. Trachea was plugged with a carbolized sponge above the canula, and the rubber chemise left dilated to prevent oozing into the trachea. The skin wound was now brought together just above the free border of the air tube, and midway between this point and the hyoid bone the œsophagus was made fast to the skin with four sutures, sufficient space being left to admit of the introduction of a good sized tube, through which to nourish what little was left of the sufferer.

Notwithstanding the fact that a little more than four hours had been occupied in the disseetion, and much blood lost, a good radial pulse was to be felt at the completion of the work. Canula was covered with carbolized gauze and patient put to bed in a warm room. At 6:30 P. M., three hours after the operation, pulse 118, temperature 103.2, and respiration 24. Some oozing of blood from the wound. Expresses his wants to his attendants with pencil and paper. Asks frequently for water and to see his friends. Thirst was relieved by bits of cracked ice placed in the mouth. Pain controlled by one-fourth grain morphia suppositories. At 10:30 P. M., pulse was steady at 118; says he feels pretty well except when coughing attacks come on. These attacks were the cause of a great deal of suffering for the first forty-eight hours immediately succeeding the operation, and were produced, I think, by oozing into the pharynx.

September 6th, A. M., pulse 130, temperature 103, respiration 26. Passed a comparatively comfortable night. Slept some. There was quite a copious discharge of seropurulent fluid from the wound this morning. Much fluid of the same character was discharged from the tracheal opening. There was an attempt to vomit, about mid-

night, which produced a sense of suffocation, but was only transient. He was much alarmed by it. I ordered a continuance of the suppositories and enemas of brandy and beef tea every two hours.

At 2 P. M. he was comfortable, and had retained nourishment; 6 P. M. pulse 130, temperature 102¾, respiration 26; was inclined to be restless and sweated profusely. Discharge from the wound is about the same in character; enemas continued. The least manipulation about the wound produced great discomfort and induced the attack of coughing, so I delayed feeding by the stomach and removal of the tracheal sponge. September 7th, pulse 120, temperature 103¼, respiration 30; had a very restless night, and is evidently weaker; complained of hunger and asked for food. By means of a fountain syringe and a gum elastic catheter, I gave by the œsophagus ℥ i of brandy, ℥ ii of beef tea and gr. x of quinine. It was passed into the stomach without obstruction or discomfort. The same dose was repeated in three hours, with the addition of gr. x of carbonate of ammonia. Tracheal sponge was changed, and an attempt made to change the canula, but the largest trachea tube at hand was found too short, necessitating the reintroduction of the original instrument, this being cleansed and the chemise removed. Has suffered two or three attacks of difficult breathing, which seemingly result from spasm of the diaphragm. Evening, pulse 144, temperature 105¼; is failing rapidly. Has taken carbonate of ammonia, quinine, brandy and beef tea in generous quantities, by the stomach, but apparently all to no purpose. Says he is not as well to-night, but "isn't going to die." September 8th, morning; pulse 150, temperature 105·5. I was with him during most of the night. He was perfectly rational, asked frequently for ice; seemed to be much troubled by tenacious mucous, which he raised from the throat with difficulty, and often at the expense of a hard paroxysm of coughing. Has taken liquid nourishment by the stomach since yesterday, and has re-

tained it without discomfort. He continued to sink rapidly, and died from exhaustion at 10:30 A. M., three days after the operation.

I have ventured to report this case thus fully in detail from the fact of the rarity of the operation. One feature of special interest to me was the rapid progress of the laryngeal deposit after the removal of the rectal growth. That there was commencing trouble in the larynx which was overlooked at the time of the first operation, I have not a doubt, and that the sufferer's existence was abbreviated by the excision of the rectum I am also convinced. It is, of course, impossible to say how long he could have survived without interference of any kind, but the rapid and decided improvement in the general health after the first operation, led me to believe that my patient had received opportune aid in combating his frightful malady.

The literature of extirpation of the larynx is so limited I have been unable to gather much general information on the subject, or of the views of the older surgeons with reference to the advisability of the operation. Dr. Mackenzie, of London, tells us that up to last May, (1880), nineteen cases had been operated upon: One in Glasgow, Scotland, and eighteen on the continent. To quote directly from his work, we learn that "of the nineteen cases operated upon, one patient died six weeks after the operation from pericarditis, resulting from the passage into the mediastinum of a bongie, used for dilatation of the œsophagus which had undergone cicatricial contraction as a result of the operation; eight patients died from collapse or pneumonia within a fortnight—in other words, directly after the operation, viz., one on the second day, one on the third day, one on the fourth day, two on the fifth day, one within a 'few days,' one on the eleventh day, and one within fourteen days. In seven instances recurrence took place within a few months after the operation, viz., once in three months, once in four months, twice in six months and once each in seven months, nine months and

ten months, respectively. Three cases were cured, one of which was an example of carcinoma, and two of sarcoma." "In these three cases the disease was absolutely confined to the larynx, whilst in many of the others the neighboring tissues were also involved. It has already been shown that, owing to the arrangement of the lymphatic system in the larynx, disease of that part does not quickly infect the constitution. This fact favors the prospects of extirpation of the larynx, when the neoplasm is confined to its cavity. In any case the rescue of three patients out of nineteen (15.7 per cent.) from certain death must be regarded as one of the greatest triumphs of modern surgery."

CASE II.

Hemorrhage from a Femoral Aneurism, Treated by Ligation of the External Iliac Artery.

John O'Brien, a native of Ireland, 35 years of age, a sailor by occupation, and a man of dissolute habits, entered St. Joseph Hospital in the month of May, 1880, suffering from secondary syphilis. He had contracted the primary sore about six months before in New Orleans. In conjunction with the primary lesion there was much induration of the lymphatics in the right groin. This thickening resulted in suppuration, and finally phagedenic ulceration took place, uncovering nearly the upper half of Scarpa's triangle. Under specific treatment the ulcer healed and our patient was nearly convalescent, when, by exercising too much, a fresh deposit was induced; rapid filling of the whole of Scarpa's triangle took place. Knee became contracted to a right angle: pain along the distribution of the anterior crural nerve became excruciating. Leg was cold; pulsation in the terminal superficial vessels was hardly perceptible, and general œdema from the middle of the thigh to the foot existed. This condition of things continued till fears were entertained that gangrene would

supervene, and end the patient's suffering. Iodide of potash and mercury in large doses were given. Cod liver oil, whisky, sulphite of calcium, and iron and quinine were freely exhibited, but made little impression on the deposit, or change in the case. Finally a small ulcer appeared in the old cicatrix, and a short sinus developed which discharged an unhealthy pus, frequently tinged with bright blood. Palpation gave a distinct femoral pulsation within the boundaries of Scorpa's space. No aneurismal omit was heard at this time.

On Monday evening, August 12th, I was summoned to the hospital in great haste and found my patient lying on the bath room floor, in a pool of blood, where he had fallen while on his way to the watercloset. He had lost by actual measurement, 1½ quarts of blood. Inquiry developed the fact that during the afternoon he had been exploring the sinus in his groin with a toothpick, and had suceeeded in introducing it about two inches. Examining the case closely, I inferred that the femoral had been injured by the improvised probe and the sanguinary flow excited by the fall. A spica bandage with compress controlled the hemorrhage and gr. ii of opium made him comfortable for the night. Ausculting the thigh the next morning, a well marked aneurismal souffle was apparent. There now seemed to be nothing to do but to choose between probable death from hemorrhage without operation, and probable death from gangrene with it. In consultation with Drs. Stewart, Stone and Owens, it was decided that passive treatment of the case would inevitably lead to a fatal issue, and euthanasia demanded the scalpel and the ligature. At 4 P. M., August 13th, in the presence of the before mentioned physicians and Drs. Horst, Davenport and Jones, I tied the right external iliac artery. The incision was begun an inch above and anterior to the ant. sup. spine of right ilium, and continued obliquely downward and forward parallel with Poupart's ligament to the outer border of the external ring. The incision was

about four inches in length. The transversalis fascia was reached and separated from the peritoneum without doing violence to the latter important structure, and by now displacing the super-imposed abdominal contents upward with a broad retractor, the artery was to be felt at the bottom of the wound. It was easily exposed and a double ligature, consisting of carbolized silk, was passed a little above the middle of its trunk. The course of the artery from about its middle to Pouport's ligament was obliquely upward and forward over the pelvic border of the mass, and seemed to enter it a little below its cutaneous margin. How much of the enlargement was aneurismal tumor, and how much lymphatic thickening, was impossible to determine. The integrity of the vessel was unimpaired at the point of ligation. Five interrupted silk sutures closed the wound. Three hours after the operation he had fully recovered consciousness. Pulse was 130; body cool and covered with a clammy perspiration. Did not suffer pain when quiet. Was given gr. i of opium in suppository hourly till asleep. Leg and thigh were encased in sheet cotton batting and surrounded by hot bottles. Knee supported by pillows, and shoulders raised to prevent traction on the stitches. The stitches were removed on the third day following the operation. With the exception of a slight increase in the anasarca and some tympanites for a few days, this patient had a slow but uninterrupted and painless convalescence. The ligature came away on the thirty-second day. The temperature of the diseased limb ranged from a degree and a half to two degrees lower than the body temperature as taken with the thermometer in the axilla. The contraction of the knee was overcome with Buck's extension and a gradually increasing weight. The fullness in Scorpa's triangle had disappeared almost entirely by the first of October. From 120 to 160 grains of iodide of potash was taken daily during most of the convalescence.

CASE III.

The following is a brief account of the case of D. J. Churchill, who suffered from a large fibro-sarcoma in the right side of the neck. The growth was extirpated, and the right common carotid subsequently ligated. This man was American born, thirty-five years of age, laborer by occupation, and gave a good family history. He thought his trouble came from having his neck squeezed by his opponent in wrestling. Nearly the whole right side of the neck was filled by the deposit, and while he was given to understand that removal promised little as regarded his ultimate recovery, yet the pain, which was constant and excruciating, would probably be lessened by the operative procedure. In the presence of Drs. Hand, Stone, Abbott, Davenport and Jones, a ligature was passed around the right common carotid, at a point about three-fourths of an inch above the clavicle. Tying the same was deferred till, during the operation, it should be found necessary to do so. After a tedious and bloody dissection the growth was completely removed, except that portion of it which lay behind the angle of the jaw, and between the mastoid process and the phayrnx. It was then deemed inexpedient to add to the shock of the operation by tying the carotid, and the ligature was left in position about that vessel, fearing that intermediate hemorrhage would supervene with reaction. Such was not the case, however, as eight hours subsequently he had rallied nicely, and, except the pain in the wound which extended up over the vault of the cranium, he was comfortable. Two days subsequently, after an animated discussion in our County Society meeting, as to the advisability of shutting off the carotid blood supply to the remainder of the growth and at the risk of producing grave cerebral trouble in one already anæmic from loss of blood, it was decided that, by lessening the arterial tension in that side of the neck we would contribute to *the relief from pain*, and would also arrest the pro-

gress of the disease until such time as collateral circulation should develope to take the place of the parent trunk. Nine members of the Society voted for the ligation, believing these reasons sufficient to compensate for the risk. Seven voted against it, believing the result would be disastrous. The majority ruling, the vessel was tied, and without producing *any* untoward cerebral disturbance. Just before tightening the ligature the radial pulse was 136; at the moment of tying there was no radial pulse for a few seconds on either side of the body, but it shortly again became perceptible, and after beating irregularly for about twenty minutes, it was steady at 126, and of better strength. The pain was decidedly less from this time forward. Four days later the remainder of the diseased tissue began to exfoliate and continued to be thrown off until the wound looked perfectly healthy. Ten days after the ligation the nurse carelessly removed the ligature while dressing the wound. I saw him shortly after this accident, but found no hemorrhage to speak of. I explained to him my fears of impending calamity, and proscribed any position but the supine, and head not to be raised above the pillow, but notwithstanding my admonition, two days later a search for the urinal which he finally got from under the bed, induced an alarming flow of blood from the carotid wound. The opening was quickly plugged with charpic moistened with Monsel's styptic, controlling the hemorrhage completely. No further accident occurred, and a rapid convalecsence followed. He enjoyed comparative comfort for about two months, when the original seat of the disease began to show signs of returning touble, and death occurred about five months after the first operation, from exhaustion.

Cases IV and V.

I have had occasion twice to resect the elbow joint, both for gun-shot wounds. The first subject was a man

35 years of age. The ball had comminuted the olecranon, and was imbedded in the post-trochlear surface of the humerus. Six weeks subsequently I found the joint completely disorganized, and made complete resection, removing the lower end of the humerus, head of the radius, and the articular end of the shattered ulna. He made a good recovery, and at the time of his discharge from the hospital he had about half flexion and extension, and nearly two-thirds pronation and supination. I have since learned that this subject neglected to continue the passive motion which I had advised, and in consequence has a much less useful arm than would have resulted had he done my bidding.

Case 2d, was a little boy, æt. five years. Bullet had passed completely through the joint, carrying away the humeral epiphysis and badly lacerating the olecranon. The operation was made about two weeks after the reception of the injury. Radius was found healthy and was not disturbed. Opposing surfaces of humerus and ulna were removed. This little fellow left the hospital with almost a perfect arm. In both cases I employed the single longitudinal incision, and found no difficulty in thus exposing the injured bones.

CASE VI.

Robert M., æt. 19, was thrown from a load of wood on the 16th day of last January, and struck, face downward, on a stump. Examining the face three days later, I found the alveolar process, holding the four upper incisor teeth, pushed inward and the teeth hanging from the gum. The second bicuspid and its accompanying alveolus on the right side of the lower jaw was gone, and an oblique fracture, extending downward and forward from the resting place of the absent tooth, was also readily discernible. In attempting to support the broken jaw by wiring together the teeth immediately contiguous to the fracture, the opposing surfaces of bone at the base of

jaw were pulled asunder to such a degree that union could not be expected. Various external dressings were resorted to and found useless. Deeming it inexpedient to attempt to fit a plate to the concave inner surface of the bone, I decided to bore through its base and wire it. This plan was executed on the 21st of January, five days after the fracture was sustained. A silver suture was first passed, but when twisted up to the requisite tightness it broke, and I then resorted to annealed iron wire, four strands of which, securely fastened, held the unruly fragments in perfect apposition. It was not until the 11th day of June, 1881, that the union was sufficiently firm to warrant the removal of the wires. A perfect jaw resulted.

Case VII.

Is only specially interesting when we consider the age of the patient. Mr. C., 94 years old, suffered from extensive epithelial disease of nearly the right half of the upper lip. Excision by the ordinary V shaped incision was done, and wound brought together with hare-lip pins. Complete union had taken place on the fifth day and pins were removed.

Case VIII.

John Campbell, age 32, had for six years been afflicted with chronic orchitis. A few weeks before he presented himself for treatment, a small ulcer developed in the skin of the scrotum at the lower part of the inflamed organ. Left testicle was normal—right was enormously enlarged, and at times very painful. While I could get no history of syphilitic infection, I put him through a most thorough course of specific treatment. He did not improve, and the ulcer seemed slowly to increase in size. Fearing malignancy in the ulcer, and knowing that the testicle was functionally useless, I advised castration. He submitted to the operation. The incision was made to include

the diseased scrotal tissue. Stohrer's clamp shield controlled the cord until its vessels were secured; it was then allowed to retract. The wound healed in two weeks, and he was discharged well at the end of the third week.

CASE IX.

Congenital dislocation of the septum nasi. The septum was displaced to the left, coming in close contact with inferior turbinated bone, resulting in complete occlusion of the left naris. Subject twenty-nine years of age, a constant sufferer from naso-pharyngeal catarrh, and frequently subject to acute exacerbations. At such times the right naris was also impervious, and breathing through the mouth became a necessity. With a staphyloraphy knife, curved on the flat, the projecting septum was pared away, and the partition "button-holed," thus establishing a connection between the two passages above the point of constriction. He shortly convalesced, and expressed himself as being "more comfortable than he had been for years." Marked amelioration in the catarrhal condition soon followed the recovery, and now, nearly a year since the operation, the nose is "useful, as well as ornamental."

CASE X.

The following case is only especially interesting, because of its rapid development. E. L.. American born, æt. thirty-three, admitted to the city hospital April 18th, had been ailing for two weeks, only, prior to entrance. The usual rational and physical signs demonstrated the existence of pleurisy with effusion, occupying the left chest. Pulse ranged from 100 to 126, and there was a daily variation in temperature of from one to three degrees, occasional diarrhœa, and much sweating. A nourishing diet, with supporting treatment, was at once instituted, and on May 8th, *ten days after* first seeing the case, assisted by

Dr. Wyeth, U. S. A., I aspirated in the seventh intercostal space, in the axillary line, removing a pint of laudable pus. Owing to the patient's enfeebled condition, and a tendency to syncope, further interference was postponed until the following day, when a permanent opening was made, and a drainage tube inserted. Two quarts of pus was the product of the opening. Treatment has consisted in twice daily washing out the cavity with a five per cent. solution of carbolic acid, and the free exhibition of iron and quinine with malt liquors. Although still wearing the drainage tube, I consider him about well.

Cases XI and XII.

The first subject was the possessor of a vesical calculus. Its nature was phosphatic. Its weight a little less than one-half an ounce. The removal was effected with Bigelow's evacuator. The patient was about 45 years of age. He made a good recovery, and except incontinence of urine, which lasted for a few days after the operation, there was no distressing symptom to retard convalescence.

Case XII was a child, a week less than three years old, also suffering from stone in the bladder. June 14th, 1881, assisted by Dr. Hand, Dr. C. E. Smith, Dr. Stewart, and Dr. Davenport, a uric acid stone, weighing ʒ vii, was removed by lateral lithotomy. It measured 1⅝ inches in its long diameter, and its circumference in its short diameter was 3¼ inches. Some trouble was experienced in extraction, owing to the grasping of the stone in the middle, so that its long axis was placed transversely; when once engaged in the forceps in its opposite diameter it was removed with ease. The little sufferer is doing well, and I think I have every reason to expect a rapid recovery.

The following is my list of amputations for the year: Two of the arm, one of the fore-arm, one of the thigh, four of the leg, three Syme's, one Chopart's.

All recovered with good stumps except the thigh. In the latter case, death took place in the third week from secondary hemorrhage. Post-mortem examination of the stump showed good union in the flaps, which were cutaneous, in their outer half. In the femoral artery was found a firm clot, nearly three-quarters of an inch long. The femoral ligature was about ready to separate. The bleeding seemed to have come from one of the perforating branches of the profunda femoris.

One Syme's operation was made for a congenital talipes equino varus, where the young lady was walking on the cuboid bone, and the integument was ulcerating. Another where a Chopart's had previously been made, the tendo-Achillis had retracted and the whole anterior face of the stump had ulcerated from pressure. The third resulted from a railway injury. The Chopart's operation resulted from complete division, by an axe, of the foot, just below the cuneiform bones, except the fifth metatarsal. A triangular piece of skin was taken from the outer side of the foot and formed ample covering for the remaining tarsal bones. An excellent stump was secured, and no retraction of the heel tendon.

Respectfully submitted.

C. A. WHEATON, Jr.,
Acting Chairman Surgical Committee.

CASES REPORTED BY J. H. MURPHY, M. D.

A Case of Ununited Fracture, Nine Months Standing.

Should the following case be as interesting and instructive to any one who may chance to read it, as it has been to me, I shall offer no apology, but feel amply justified in its report.

Alex. P., of Duluth, Minn., while unloading heavy timbers from a flat car, was caught by a sliding skid, sustaining a compound fracture of right leg, at junction

of the middle with lower third, and other slight bruises of less consequence.

He was seen at once by a surgeon who diagnosed the fracture, replaced the fragments, dressed with splints, and directed the ordinary treatment, keeping him in bed four weeks, at which time the leg was dressed in plaster of paris bandage, extending from knee to toes, and so kept eighteen days. This bandage being removed, another of plaster was substituted, extending from middle of thigh to toes. This bandage the patient wore continuously for three months, at which time it was replaced by a grooved bandage, which was worn eight or ten days.

On Sept. 26th, nearly twenty weeks after the injury, he came to St. Paul, consulted a surgeon, who diagnosed an ununited fracture, and advised an operation. The patient accordingly returned to his home, and was the following day operated upon. The operation consisting in irritating the fractured ends of both the tibia and fibula.

He now remained in bed twenty-five days. On Nov. 7th he came to me for an opinion, saying that he expected an amputation, having lost health and strength, and suffered so long and severely, that life itself with this useless member was little to be desired.

I found a cicatrix over site of original wound, considerable atrophy of leg muscles, false motion at seat of fracture, with apparently very little if any osseous material thrown out. General appearance fair, though far from robust. The next day the patient having been sent to St. Joseph's Hospital, and placed under the influence of ether, assisted by Dr. Quinn and my student, Mr. Whitcomb, I made a vertical incision, two and three-fourth inches in length, over the anterior aspect of the leg at site of fracture, dissecting carefully down, we found the opposing surfaces of fractured bone covered with a cartilaginous exudation of less consistency than ordinary fibro-cartilage. I now took an ordinary shoemaker's

straight awl, passing it into the space between the fragments with a revolving motion, thoroughly scraped and partially denuded the entire surfaces. I now wished to secure immobility of the oblique fragments; to do this I took the spiral screw of Gross and attempted to bore through from one to the other, failing in this, the instrument being totally inadequate, I sent for an ordinary polished gimlet, with which I bored completely through the tibia fragments, and into the fibula. In this position, the gimlet was allowed to remain, the wound left open and carbolic acid dressing applied; the leg in well padded straight splints.

At the end of forty-eight hours, there being every indication of active inflammatory action, I removed the gimlet, leaving the splints as at first applied, and wound open. On the third, fourth and fifth days following the operation there was some febrile movement, thermometer ranging from 100 to 101¾ F. The wound healed by granulation, very considerable quantities of pus being discharged. At the end of four weeks he was allowed to sit up and move around the ward on crutches. The only complication occurring was a very large abscess above the fracture, on the inner aspect of leg which, upon being lanced, discharged several ounces of sanious pus.

I now applied a silicate of soda bandage extending from tuberosity of tibia to tips of toes. As swelling subsided from leg, a longitudinal piece was removed the entire length, and the splint re-applied with a roller bandage. He was put on tonics consisting of iron, quinine, and the vegetable bitters, maintaining a good appetite the entire time he remained at St. Joseph. On the 15th of January, the leg having been examined by several professional friends who, without an exception, pronounced union with some shortening, I discharged him, he walking about the city with the use of an ordinary cane.

I have reported this case less on account of any new principles or skill displayed, all being known to surgeons

everywhere, than to bring again to the notice of our profession the importance of persistent and repeated effort. Even though we have apparently failed, we can yet try another time, hoping nature shall have become ready to be assisted, and repair the injuries sustained by our, as yet, imperfect methods, or other cause.

Three Cases of Pelvic Fracture, with Complications. Two Recoveries, one Death.

CASE I.

On March 23d, George W., a painter, aged 30 years, while working on a scaffold was thrown, by its breaking, to the ground, a distance of eighteen feet, falling in a prone position upon a pile of blocks and stones. He was at once picked up by fellow workmen and laid upon a bench, where I saw him twenty minutes later. Found him in a condition of mild shock. There were abrasions over left thigh, about the face, and two or three slight ones upon the trunk.

I directed his friends to remove him to his room, where I stripped and re-examined him. On manipulation, I detected marked crepitus, which satisfied me of a fracture which I finally located at the junction of the ascending ramus of ischium and descending of pubis. In about an hour he so far recovered from shock as to talk quite freely. Complained of pain in hypogastrium. I now introduced flexible catheter and drew off about seven ounces of urine, slightly tinged with blood. Gave an opiate and left him for the night.

The following morning patient complaining of retention and general soreness and aching throughout abdominal regions. Temperature 100, pulse 115, respiration hurried and shallow. Drew off water, ordered sponge bath and opiates to quiet pain. To be brief—the temperature on third day reached 103½; was given quinine, following which it dropped to normal, where it remained.

The treatment consisted in maintaining absolute rest in bed. His water was drawn off every six or eight hours until the fourth day, when nature resumed control. General tonics constantly administered. At the end of nine weeks he was allowed to go about the room on crutches, and at the end of twelve discharged, being sufficiently recovered to walk with the assistance of an ordinary cane. He has now, June 15th, gone to his usual occupation of house painting.

Case II.

On February 12th, Mr. S., while crossing the C., M. & St. P. R. R. at Newport, was struck by the locomotive of a passenger train and thrown a distance of fifty feet, the sleigh wrecked, and both his companion and horse instantly killed. The train was stopped and the injured man brought to this city, where I saw him at the depot about forty minutes after the accident. I directed him to be removed to St. Joseph's Hospital, where he was examined by Dr. Quinn and myself. We found him in a semi-bewildered condition, quite talkative, and complaining of pains located in one leg and shoulder. There was an irregular wound extending along lower third of left leg to a point just below external malleolus, ecchymosis, and slight scratch on outer aspect of thigh; a fracture extending horizontally from notch just beneath anterior superior spinous process backward 2¾ inches, to crest of illeum.

There were no severe symptoms, the patient complaining only of pain in side. The day following he regained his usual quiet manner, ate and rested well.

No complications arose, and at the end of two weeks he was allowed to go to his home, sixteen miles, where he has been steadily improving, already attending to his ordinary vocation of milling, a short time only now remaining until he will have made, in my judgment, complete recovery, which is no doubt due to the non-involvement of important structures, as in the case following.

CASE III.

Mr. W., a German, æt. 59, was crushed beneath a rolling log in the woods near Rush City. Within a few hours he was seen by Dr. McComb who diagnosed pelvic fracture, together with a rupture of the membranous portion of the urethra from which there had been some hemorrhage. He also found ecchymosis over hypogastric region, and symptoms of ordinary shock. On the morning of the third day, his urine being drawn, contained a large quantity of pus. On the fifth day an abscess opened through the perinæum. On the tenth day he was brought to his daughter's house in this city and placed under my treatment. I found the patient very much weakened, pulse feeble and very frequent, temperature 103 F.—Anorexia—complaining of constant and at times intense pain throughout entire pelvic region. By injecting the bladder through the urethra I was surprised to notice its escape through the perineal opening, and after this urine escaped through perineal sinus, thus demonstrating a rupture of the bladder. I put him at once upon nutritious diet with tonics, such as iron and quinine; washed out the bladder four times a day with a weak solution of carbolic acid. For four or five days he apparently gained strength; general appearanee improved, the discharge becoming less copious and offensive. At this time he suffered an attack of dysenteric diarrhœa, lasting forty-eight hours, which was controlled by opiates. The integrity of his urethra having become established, and the discharge through the perinæum becoming limited to a lesser quantity, I anæsthetized the patient, and with curved scissors pared the edges of the perineal opening and introduced four deep sutures of silver wire, adjusted a catheter, which was allowed to remain forty-eight hours. The patient being an old man and somewhat enfeebled by exposure and labor, began to give less evidence of recuperative power than I

had hoped, though the wound looked healthy, and urine yet containing some pus, was less offensive than it had been. Our patient was evidently failing. Three days after this time I detected fluctuation just posterior to the original opening in the perinæum. With an aspirator I withdrew 4½ ounces of thick, greenish pus. But despite my best endeavor to assist nature in combatting the progress of disease, he gradually became weaker, until the fifth day following the last operation he developed indications of septicæmia, which brought a speedy termination to his life. An autopsy could not be obtained.

SPERMATO-HYDROCELE WITH HERNIA.

WINONA, MINN., MAY 25, 1881.

DEAR DOCTOR: I have nothing unusually interesting to report, yet I venture to give you a case which might be called interesting:

April 24th, a young man æt. 24, came to my office to consult me about a rupture. Upon examining him I diagnosed, at the first glance, an immense hydrocele, (right side). Applying the light test, I got negative results. The tumor was of three years duration, and the abdominal wall quite protuberant and hard, which hardness extended clear up to the border of the ribs. Laying the young man on the lounge and telling him to cough, I got a distinct intestinal impulse, making my diagnosis of hydrocele with inguinal hernia. To make doubly sure, I introduced my hypodermic syringe. Immediately the syringe filled spontaneously from within from the immense pressure of the fluid, so that it raised the piston with ease. I then took my trocar and tapped, and removed *one gallon and a half*, by measure, of a clear, brownish liquid. The suspected hernia was then very apparent, and slipped back quite readily, the opening of

the abdominal ring being quite large. I applied a truss as accurately as possible under the circumstances, as the tissues were exceedingly relaxed from the long over extension, and got the young man home happy and rejoicing. At the date of this writing, the hydrocele has since refilled but is filling slow, and after my next tapping I shall commence with the radical cure.

On account of the unusual amount of liquid removed, I reported the case to my former preceptor, Prof. D. Hayes Agnew, M. D., who kindly sent me the following lines:

"The hydrocele was one of both the tunica vaginalis and of the cord, the two structures being continuous, and your treatment very properly applied. The hernia will possibly get well by the continuous use of the truss, particularly if the pad is a hard one."

Now, doctor, if you think this case interesting enough you may include it in your report.

Very respectfully yours,

FERDINAND LESSING.

C. A. WHEATON, JR., M. D.

THE TREATMENT OF MINOR WOUNDS.

I mean by minor wounds those solutions of continuity which occur more often in a rural community from the use of edged tools, or farm machinery and implements. Too often these cases are deemed of but little importance by medical men, and even by the people themselves. A person while chopping wood, hewing timber, mowing and reaping, receives a cut upon the foot, for instance. It may not be a very large wound, he is some distance from a surgeon, time is of some value to him. The bleeding may be quite profuse, or it may not be; no matter. In all probability some foreign substance is placed in and over the wound, such as tobacco, puff-ball, spider-web, flour paste, wool, old rags, or any substance near at hand.

It is tied up in any manner most convenient. In a few days it may unite by first intention; it may not, and generally does not. A few days more reveals a gaping, suppurating wound. It may go on granulating and soon heal with the loss of but little time. More often it will take on an unhealthy condition, become hot, swollen, and intensely painful, until finally the party cannot move about, and weeks and months go by ere it is sound and well.

This picture is not over-drawn, as many can testify who live in rural districts. I have known a whole season's work to be lost to an individual in consequence of a small cut of the foot made by an axe. And this has occurred to numbers of persons, so in the loss of time the matter rises to some importance. Can the ordinary country physician be of any service in these cases? Can he, by the exercise of his art, be of use in saving this loss of productive power to the individual and the State? I unhesitatingly answer, he can.

The adage that "many roads lead to Rome," find abundant illustrations in surgical practice, therefore I would not set up any pet method of my own as being the only one by which speedy relief can be brought to these cases. I shall, however, beg leave to say that I have known some medical gentlemen to be sadly troubled by these same minor wounds. They have pinned their faith to some master—have become a slave to some system. Their minds are filled with the idea of a complex and elaborate method of dressing which they cannot apply in all its details, and thus expect and invite failure.

A simple and easily understood and applied dressing is the method for which I ask consideration. The ordinary and usual rules of surgical practice must be brought to bear in the first handling of these wounds. That is to say, all foreign substances must be removed, clots turned out, hemorrhage arrested, accurate coaptation of the surface of the wounds secured. There are no means so well adapted to accomplish the latter indication as the

suture. Unless there be insuperable objections I "stitch" every minor wound I meet. Give an anæsthetic if I cannot succeed without it. In fact, if I need to use a number of sutures, I give it from choice. Now I have made a solution of carbolic acid; one teaspoonful of a ninety-five per cent. solution, added to a pint of *hot* water. If the wound is cold and very fresh, the first application is made hot. A number of folds of old cotton cloth are laid over the wound, wet with this solution. A roller is carried over this lightly and the dressing is completed. I order this original dressing to be undisturbed for at least three or four days. It must be kept constantly wet with the solution during this time, applied cold after the first day. Gentlemen, it is no unusual thing to find the wound perfectly united at the end of the fourth day. If not completely, this result will be attained by a few days further application of a less thickness of the cloth and a weaker solution of the acid, applied less often. The patient or his friends can attend to it, and also remove the sutures.

It is needless to remark that this dressing may be applied to a large variety of wounds. Burns and scalds are nicely treated thus.

R. L. MOORE.

CASES REPORTED BY W. L. LINCOLN, M. D.

CASE I.

R. M., a healthy young man of 20 years, engaged in a flouring mill, placed himself on the wrong side of a cogwheel in oiling machinery, was caught by his clothing above the elbow. The skin was somewhat laserated from the wrist to the middle of the humerus. From the middle of the humerus the integuments were removed to the axila and from the side of the chest to the extent, in all, of more than a square foot. A large surface, which did

not show marks of injury at the time of the accident, sloughed within the next three days, so that on the under side of the arm the integument was gone nearly to the elbow. The wound was cleansed and sponged until well glazed with a watery solution of carbolic acid, "one to twenty," and enveloped in a dressing of *dry* cotton batting The first application was allowed to remain until the third day, after which it was dressed daily for twenty days with the dry batting. The point of time between the removal of the soiled dressing and the application of the fresh one was made the shortest possible.

The result of this case strengthens my conviction that too long exposure to the air in washing, dressing wounds, retards the healing process. The patient returned to partial duty in the mill in twenty-one days, and at the end of forty days the space denuded of integuments could be covered with the hand.

CASE II.

A. M., a lad of ten years, sustained a dislocation of the elbow and oblique fracture of the inner condyle at 3 P. M. Twenty-four hours afterward I saw the case. The swelling had then reached its maximum. The arm was placed upon a temporary splint and left for four days, at which time the boy was etherized by my partner, Dr. Van Dyke, a careful diagnosis made and the arm confined in a zinc splint made to fit exactlys and to hold the fore-arm at an angle of forty-five degrees with humerus. On the fifteenth day passive motion was made under ether. The bony union seemed tolerably firm and anchylosis of joint considerable. I now determined to make extensive motion of the joint, under anæsthetic, every third or fourth day, until satisfactory motion was obtained. This plan was carried out, either by myself or Dr. Van Dyke, for five weeks, and we are rewarded by such a degree of motion as recommends the plan to our better judgment.

ST. PETER, June 10th, 1881.

DR. C. A. WHEATON,

Acting Chairman Surgery Committee.

DEAR DOCTOR: Your circular received, and agreeably to your call for surgical cases of interest, I beg to submit the following: About March 15, 1880, I was invited by Dr. A. W. Daniels to see a patient aged about one year, who was suffering from stricture of the æsophagus, low down, caused by swallowing concentrated lye five months previously. She was unable to take any nourishment per mouth, and was being sustained by nutrient enema. We attempted to pass No. 8 urethral bougie (American scale) but failed. We then gave ether with no better success. Five or six days afterwards I was requested to take charge of the case and attempt dilatation. This I reluctantly consented to do, having no hope whatever of success. At the first sitting I succeeded—after some effort—in passing the stricture with No. 5 urethral bougie (American scale) and followed it in a few minutes with No. 6. On the following day I succeeded in passing Nos. 6 and 7, and each succeeding day a larger size until I was able to pass No. 10. At my second passage of No. 10, a too rapid and forcible removal of the bougie occurred in the hands of another, whom I allowed to remove it, to show how firmly it was held by the stricture; as a consequence the next attempt at introduction of the bougie was followed by the appearance of blood, and succeeding attempts by blood and pus, so that I was compelled to suspend operations for several days. The parts gradually healed, however, and in the course of a week or ten days I was again able to pass a small bougie, but it was not until May 19th, (two months after commencing treatment) that I was able again to use even No. 9 bougie. I then taught the mother how to pass them, and resigned this part of the treatment into her hands. By July 18th she had increased the size to No. 11, by October 28th, to No. 13,

and by February, 1881, to No. 14, which she is still using, I being, as yet, unable to get bougies of larger size that are of any use. The bougies that have served me best are the ordinary elastic hollow urethral bougies, stiff and hard with age, easily softened by warming, but retaining firmness and elasticity, and if they become too limber by use, permitting the introduction of a smaller one within. The solid conical bougies have not served me well, being so limber after once or twice using as to double in the back of the pharnyx and allow no pressure to be exerted on their point. The patient at present has every appearance of perfect health, is able to eat, with careful mastication, all kinds of food, and there seems every reason to anticipate for her an ultimate complete recovery.

CASE II.

About the time of my undertaking the treatment of the above case the following similar one came to my knowledge, and served as a stimulus to persevere in my treatment. The subjoined history was obtained by correspondence with the parents of the child:

L. M. C.,æt. six years. When sixteen months of age, swallowed concentrated lye; after a time it was discovered that she had some difficulty in swallowing, and finally was unable to take even liquids into the stomach. Her parents consulted " head doctors of Medical Schools" by the advice of their physician, and each pronounced her case a hopeless one. The physicians attempted to pass tubes into her stomach, but failed, and said "she must die." The father then procured a set of bougies, and attempted to pass them himself, and succeeded in passing one the "size of a knitting needle." Sometimes he was unable to pass this for days at a time, and at other times he would be an hour in passing it. He learned of the exact position and shape of the stricture by getting her to swallow milk, and immediately after vinegar, which

formed a curd; he then "playfully threw her over his shoulder, with head down," when she immediately coughed up this curd, a perfect cast of that part of the æsophagus about the stricture, showing him a deep pocket with the stricture at one side, and its opening about the "size of a pin." This knowledge enabled him to manipulate his bougie so as to enter the stricture more readily. After passing the bougie a few times she was able to take liquid nourishment, and he would not pass it again until she "choked up." After a time, however, they passed it more regularly, and for a period of three years, up to the fall of 1879, when they abandoned the passage of the tube, never having been able to use a larger than No. 8 (American scale). This patient is reported able to eat all kinds of food, and is considered to be in perfect health by her parents. These two cases certainly illustrate what may be accomplished by courage and perseverance in the use of the dilator.

In my researches after successful cases of treatment by this method I find but one other. See Cohen on Diseases of the Throat, fol. 296.

Respectfully submitted.

J. HENRY JAMES.

STILLWATER, MINN., June 11, 1881.

DEAR DOCTOR: I have nothing of special importance to report this year. I will, however, report the following unusual case. Was called November 10th to see Mrs. R., messenger stating that she was dying of hemorrhage. Was at my patient's residence in less than ten minutes and found her sitting in a rocking chair, dead. The hemorrhage was from a chronic ulcer of leg, situated midway between ankle and knee. The hemorrhage was arterial, and undoubtedly the anterior tibial was perforated. She was sitting in a rocking chair when the hemorrhage commenced, without having stockings on. Jets of

blood were thrown a considerable distance from the chair, and the fatal hemorrhage did not last to exceed five minutes. She was very fleshy, and eight months pregnant. The ulcer was of eight weeks duration, and she had never similarly suffered in former pregnancies. The limb was but slightly varicosed, and the appearance of the ulcer indicated that it was the indolent form. There was no appearance of a slough forming, or no history of a recent injury to the ulcer. I was not able to obtain a post-mortem, but am fully satisfied that the anterior tibial artery was perforated by the ulceration of its coats.

Respectfully,

P. W. MILLARD.

CONCUSSION OF THE BRAIN.

A Case Reported in the St. Louis Courier of Medicine and Collateral Sciences, by Dr. L. H. Munger.

May 22d, 1879, was called at 8 P. M. to see Mrs. F. the victim of a runaway. Found her pale, cold and slightly moist. Pulse slow, almost imperceptible. Respiration slow, regular and easy. Pupils somewhat contracted. Signs of recent epistaxis were present, but no hemorrhage or flow of serum from either ear. There was vomiting, occasionally, a little fluid dark colored blood being ejected. There was a small scalp wound just to the left of the occipital protuberance. The left ankle appeared to have been sprained. No other injury was detected. I learned that in the attempt to jump from the wagon, while it was in rapid motion, she tripped and fell, the back of her head striking on the hard gravel road-bed. She was thirty-one years old, and not a strong woman before the accident.

When I arrived, two hours after the accident, the friends had given three teaspoonful doses of whisky, and were

applying cold water to the scalp wound. I had the patient put to bed, and dry heat applied to the extremities. Prescribed five grain doses of carbonate of ammonia every hour. At the end of two hours, reaction had commenced, and the stimulant was withdrawn. Patient recognized her husband, calling him by name. Vomiting continued at lengthened intervals. She assumed the lateral decubitus with all her joints flexed, complained much of pain in the head, was restless, but not over sensitive to light or sound. No paralysis, either of motion or of sensation, could be discovered.

23d, 6 A. M., temperature 101, Far. Still complains of pain in head. Prescribed a saline in broken doses, and one-eighth grain doses of morphia sulph. 8 P. M., temperature 102¼. Has vomited only twice since morning.

24th, 7 A. M., temperature 101¾. Ordered enema of warm water and lemon juice. Midnight, patient resting quietly.

25th, 7 A. M., temperature 100½. Enema repeated. For comfort and convenience, had the patient's hair cut short. Directed milk in small quantities, and often. The urinary function has been properly performed all the time. 8 P. M., temperature 100¾.

26th, 7 A. M., temperature 99½. Enema repeated and mild laxatives given. 10 P. M., temperature 99¼.

27th, 7 A. M., temperature 99¼. Patient looks better out of her eyes; is more communicative; takes more food with apparent relish. Saline discontinued. 10 P. M., temperature 98¾.

28th, mild laxative directed, which the stomach rejected at once. Enema repeated and saline resumed. 10 P. M., patient sleeping quietly. Pulse a little faster and smaller than usual. Face slightly flushed.

29th, 7 A. M., temperature normal for the first time. Noticed, for the first time, the wound on her head. She eats and sleeps better; does not seem entirely rational all the time.

30th, temperature normal. Rested well all night. 12 M., patient has taken more food than usual; bowels moved without injection, the fœces being nearly of normal character. She is taking, at intervals of from six to ten hours, morph. sulph. grain 1-16. She has not been at all "flighty" to-day.

After this the patient improved slowly but constantly, until the 20th of June, at which time she passed from immediate professional care. But from the time of the accident until the 1st of June (when her mother arrived), a period of nine days, is a total blank to her. She remembers absolutely nothing of even the circumstances of the accident, though she appeared more or less rational much of the time, knowing her husband and recognizing her nurse and myself.

August 13th. Patient considers herself as well and as strong as before the accident.

On the 6th of March, 1880, nine and one-half months after the accident, I delivered her of a well-developed, healthy male child.

This case seemed interesting in that it was a nearly typical case of uncomplicated concussion of the brain, resulting in complete recovery.

FARMINGTON, MINN., JUNE 15, 1881.

C. A. WHEATON, JR., M. D.—

DEAR DOCTOR: I have had but one surgical case worthy of report this year, viz.: a cut throat.

May 6th, in the night, I was called to see Mr. G., who had been brought four miles to town to have his wound dressed. On examination, I found an incision about three inches in length, made with some sharp instrument. The thyroid cartilages were severed just below the attachment of the epiglottis. The wound completely divided the air passage and extended into the œsophagus. I closed the wound with five silver sutures. It united by

first intention. There was not one untoward symptom. On the twelfth day I removed the last suture, and the patient was discharged.

Respectfully submitted,

L. P. DODGE, M. D.

AURORA, ILL., JUNE 19, 1881.

ALEX. J. STONE, M. D.—

DEAR DOCTOR: Your favor of the 16th inst., inviting me to be present at the annual meeting of the Minnesota State Medical Society, is just received. I thank you most heartily for the invitation, and it would afford me much pleasure to be able to accept it, but business engagements and the very short notice preclude the possibility of my doing so.

I have thought you might be interested in a case that has recently presented itself to my notice, which illustrates the necessity of a surgeon exercising his inventive powers to overcome or rather remove an obstacle by means not "taught in the books." Others may meet with similar accidents, and it is possible my experience may tend to relieve them of embarrassment. I will, therefore, take the liberty to relate the case of a catheter broken off in the bladder.

On the 8th of the present month, a man nearly seventy years of age was brought to me, a distance of thirty or forty miles, who had for many years been under the necessity of using a catheter to draw off his urine, in consequence of enlarged prostate gland. He had used an elastic catheter, supposed to be of English manufacture. The instrument had become old and brittle, and on the morning of the day he was brought here the catheter had broken, leaving nearly five inches in the bladder and prostatic and membranous portions of the urethra. The end of the piece in the urethra could barely be felt by external manipulation, but could not be grasped by the fingers.

This was, to me, a novel case, for which I had no suitable instrument nor device, but I proceeded to improvise an instrument as follows: Being in possession of a part of the broken catheter I knew its calibre. I procured a wire a little larger than the orfiice of the catheter, aud obtaining a tapering wood-screw with a fine, sharp therad, that could be made to easily screw into the fragment which I possessed, I had the head cut off, one side filed to correspond to a similar flat surface filed on the wire and attached to it with hard solder by a jeweller. I then possessed a wire with a fine, tapering screw at the end. I next cut off the terminal end of an elastic catheter into which was inserted the wire, but did not allow the screw to extend beyond this sheath. This being thoroughly oiled was introduced into the urethra until it came in contact with the offending fragment. After considerable manipulation, partly, perhaps, in consequence of the fragment of the catheter being bent or curved, I succeeded in introducing the point of the screw into the fragment, and by gently turning the wire, but not using force or pressure, for fear of pushing it entirely into the bladder, was successful in bringing a piece forward some two inches when the screw drew out, but I then grasped it with small, round forceps and withdrew it, to find I had only about an inch of the instrument, the remainder being nearly all in the bladder. Another effort was made with the wire screw, which succeeded in bringing the remainder of the catheter sufficiently forward to be grasped by the fingers through the parietes, and propelled forward hy manipulation until expelled. The patient and his family physician returned in a much happier frame of mind than when they came.

I send you the first piece extracted. The remainder measured four inches in length.

Very truly yours,

ABNER HARD, M. D.

A SEVERE CASE OF ERYSIPELAS.

By C. E. DAMPIER, M. D.

I was called to Fisher's Landing May 14th, 1880, to see Mr. J. H., who had a severe attack of facial erysipelas. He was boarding with his brother-in-law, Mr. E. H. A., who attended him nearly all the time during his sickness. He made a good recovery in about a week. May 31st, 1880, I was called to see Mr. E. H. A., who was suffering with erysipelas involving all the skin and cellular tissue of the penis, which had begun two days before I was called, and had evidently been contracted from his brother-in-law while attending him. He was aged about thirty-five years, married, temperate, a carpenter by trade, and had always been strong and healthy. I found the organ enormously swollen, and pain unbearable. Temperature 103, pulse 100. I prescribed a solution of acetate of lead ℥ss to oj. to be applied warm, and gave quinine and iron in large doses. The following day, June 1st, the whole scrotum was involved, and the integument of the penis gave indications of sloughing. June 2d, his condition was about the same, but June 3d I found him very low, temperature 104½, pulse 135, and weak, low muttering delirium, sub-sultus tendinum, tongue dry and brown, and scrotum and integument of penis sloughing. Applied warm four per cent. solution carbolic acid and gave quinine five grains, tr. iron ʒss every four hours; plenty of nourishment and some stimulants. Prognosis very unfavorable. Condition remained the same till June 6th, when the inflammation seemed to extend to the peritoneum, the abdomen became tympanitic and very tender, and temperature rose to 105¼. At the same time the inflammation extended up into the surface of the abdomen and thighs. The penis and scrotum were suppurating profuseIy, and the odor was terrible. Dr. Collins, of Grand

Forks, was then called in consultation, and same treatment was continued.

The next day the disease appeared on his nose and spread over the entire face and neck, and then disappeared in about four days. Suppuration was active, and every day I would remove all the loosened dead tissue, and June 14th, I removed the last piece. All the skin and cellular tissue of the penis was gone, leaving the corpora and glans exposed but healthy. The *entire* scrotum was also gone, including the tunica vaginalis reflexa, leaving the testes completely exposed, and attached only by the spermatic cords, but each epididymis entire. The fever declined, he became rational, tongue became clean and moist, appetite returned and he began to improve in every way. I then consulted Dr. A. J. Stone of St. Paul, by letter, as to the best treatment to pursue, and following his excellent advice, I continued the quinine and iron in full doses, and dressed the penis and testes with a two per cent. solution of carbolic acid, and covered with oiled silk. Healthy granulations sprang up, and in two months the scrotum was entirely replaced in as good condition as before, and the integument of the penis was reproduced, but the extreme brevity of the prepuce could not fail to please the most fastidious Israelite. Although the organ could not put forth much claim to beauty, its usefulness was not impaired, and the sexual function was not lost. During all the time he was taking such large doses of quinine and iron, the stomach bore it well, and he vomited but twice, and always took food or medicine when it was offered him. His health continued good until April 22d, 1881. That day he had been working all day, standing in water, and when he came home at night he had a severe chill, and his penis became swollen and painful. He recognized his old pet, and immediately applied the carbolic acid solution, took his quinine and iron mixture and sent for me. I reached him the next evening, and found his pulse 104, temperature 103½, penis greatly

swollen and inflamed, urination difficult on account of the swelling, and inguinal glands enlarged. I ordered the quinine and iron continued, and gave soda hyposulphite grains 20, every four hours, and applied a solution of the same. Two days later I saw him again, found pulse 85, temperature 100. Erysipelas had not extended, but seemed to be disappearing, and swelling was going down. Ordered same treatment continued. Saw him next morning and found him still improving, appetite good, and feeling well. In a few days he was up and at work again, and has been well ever since.

ST. PAUL, JUNE 18, 1881.

DR. CHAS. A. WHEATON, JR.,

Chairman, etc.:

Replying to your request for surgical cases of interest in my practice during the past year, I beg to say that my operations have all been of such a routine kind, and so devoid of novelty, that I have persuaded myself that nothing is worthy of being reported, unless it be the following case of gun-shot wound of the chest.

Mr. A. F., aged 29 years, resided in this city. On the evening of Oct. 8th, he was shot by his wife, who, at the time, was laboring under an attack of acute mania. The patient was not seen until about an hour after the shooting had occurred.

The scene which presented itself upon entering his apartments was certainly a harrowing one. The utmost confusion prevailed. Articles of dressing apparel, trunks, chairs, bedding, etc., were strewn and scattered about the floor as though a violent and desperate struggle had lately taken place. The wife was seated in a chair in the centre of the room, and forcibly restrained by two policemen. Three young children were on the bed beside their injured father, and terrified at the wild outcries of their mother and at the sight of the policemen, who they imagined were

trying to do her bodily harm. The patient was on the bed with his chest bared, and a bullet hole was observed, from which blood was seen trickling down the side of the chest.

An examination revealed the fact that the bullet had cut the second rib at the juncture of the cartilage and bone, and had entered the lung substance. Immediately upon receiving the shot, bright arterial and frothy blood spurted from the patient's mouth. Coincident with this symptom, air was observed to enter and leave the chest, through the wound, with each respiration, and made a peculiar hissing sound in doing so. There could be no doubt that the lung was penetrated. The patient coughed almost continuously, which now and then became paroxysmally worse, and the sputa raised were either pure blood, or a glairy, sanguineous mucoid substance. There was no dyspnœa. Auscultation of the right lung revealed large and moist vales, distributed in every direction. No wound of exit could be discovered, and a careful examination failed to determine either the direction or course the ball had taken, or ascertain its location and lodgment in the tissues. I need scarcely say that no probe was used for diagnostic purposes. Meanwhile the patient was perfectly conscious, calm, and bore his sufferings with rare fortitude.

To my mind, the most remarkable feature of this case was the almost complete absence of surgical shock attending the injury. We well know that it is the rule when such vital organs as the lungs are penetrated, for the patient to suffer more or less from collapse, but this case was an exception to the rule. His pulse was found full and regular, and his heart beat ninety times to the minute. He was given a hypodermic injection of morphine, a bandage placed around his chest, and then removed to St. Joseph's Hospital. My case-book reveals the subsequent history of this patient.

Twelve o'clock midnight, (five hours after the shooting), temperature 100½, pulse weaker than when first seen an

hour after the receipt of the injury. Is freely spitting blood. Ice to chest and per orem. Rests quietly under the influence of opium.

October 9th, (morning following the injury), 9 o'clock, temperature 100¾, pulse full, strong and regular. Three P. M., temperature 102, pulse 76, full and strong as usual; respiration 18. Eight P. M., pulse 80, temperature 101⅞.

October 10th, 10 o'clock A. M., pulse 100, respiration 18; pulse 76, full and regular. Seven P. M., temperature 101, respiration and pulse normal. The patient at no time complained of pain in his chest, and repeated examinations failed to detect either pleurisy or pneumonia. The pulse tracings and temperature chart were so remarkable that I could not avoid a suspicion that the diagnosis of a penetrating injury to the lung was an erroneous one. Several physicians were asked to see the case, and appeared equally perplexed, but said there could be no doubt that the injury had been correctly interpreted.

Seven days after admission to the hospital the patient complained of a feeling of soreness, referred to the angle of the right scapula, and upon examination I detected the bullet surrounded by and imbedded in a patch of ecchymosis, and at once extracted it. It was flattened and irregular, the change in shape doubtless being caused by its striking the rib ere it entered the lung.

The patient remained in the hospital just ten days. His cough meanwhile grew less and less, with a gradually decreasing amount of blood in the sputa; his lung cleared up of the moist rales; the normal vesicular murmur was soon re-established, and he was discharged in ten days well. This case is an instructive one.

The mortality in the late civil war from penetrating gun-shot injuries to the chest was seventy-three per cent., and Bryant in his work on surgery, says, "Hardly more than one case in ten surviving—death generally resulting directly from hemorrhage or the consequence of consecutive inflammation of the thoracic organs."

It is remarkable that the patient not only survived, but that there was an almost complete absence of the following complications, viz.: Dyspnæa, hæmatothorax, shock, collapse, pneumonia, pleurisy and pulmonary abscess. The patient is at the present time performing his usual labor as a carpenter.

Yours truly,

TALBOT JONES.

FRACTURE OF CLAVICLE, DISLOCATION OF KNEE JOINT, AND OTHER INJURIES.

BY A. J. MURDOCK, M. D.

M. S., aged eight years, female, while playing on some logs in a mill yard, near her home, fell under a log which had become loosened, the log rolling over her body from the feet up to the chest, and there stopped, and in this situation she remained while other children ran to a mill some twenty rods distant, for help. Two men ran to the rescue and with great difficulty extricated her. The log was green oak, twenty-four feet long and one foot through. She was taken up insensible, her face purple, the eyes protruding from their sockets, and blood oozing from mouth, nose and ears, and carried to her home. She remained unconscious one hour. In the meantime a physician (so called) was summoned, who prescribed laxatives and made a diagnosis of fracture of leg, thigh, pelvis and clavicle, and dislocation of knee. On the following day I was called, and arrived twenty-four hours after the accident occurred. Reaction was taking place—pulse 120, temperature 102. Examination showed a fracture of clavicle and dislocation of knee joint. A considerable quantity of blood had passed per rectum, also from vagina and bladder. The slightest movement of the body caused great pain. There was ecchymosis of eyelids and eyeball, and great tenderness of abdomen and vomiting. I

gave opiates to relieve the pain, applied fomentation to abdomen and sedative lotions to the contused parts; reduced the dislocation and placed the limb in an easy position. Thirty hours after the accident she had a movement of the bowels which contained blood.

On the third day the abdomen became swollen and tenderness increased; obstinate vomiting, high fever, great thirst, retention of urine, which was relieved by catheter, and the case seemed hopeless until the fifth day, when there was an abatement of symptoms, and she improved slowly from that time on, and at the end of the third week could sit up, and in five weeks was walking about. Recovery was complete, with the exception of incontinence of urine.

What I think especially remarkable about this case is this, viz., there was hemorrhage from every natural orifice of the body at the time of and following the accident; also, ecchymosis of the ocular conjunctiva and cellular tissue about the eyes.

SHAKOPEE, MINN., MAY 17, 1881.

R. L. MOORE, M. D.,

Chairman Com. Surgery, Minn. State Medical Society.

DEAR SIR: The following of my cases occurring since our last meeting, though presenting nothing of very special interest, are offered your committee to be used as you may see fitting:

FRACTURED FORE-ARM—TIGHT BANDAGING BY AN EMPIRIC—GANGRENE—AMPUTATION ON THE FOURTEENTH DAY—RECOVERY.

SUIT FOR DAMAGES.

Sept. 22, called to see Mary D., aged 16; Irish girl, living on a farm twelve miles from town. She had fallen

from a horse on the 10th—twelve days before—and fractured both bones of fore-arm, about three inches below the elbow. To save expense, her mother and uncle called in a farmer, living a few miles away, who professed to be a "great bone setter," and who "had set hundreds of bones in the old country." I was told that with the aid of three men he managed to set the bone, bandaged the fore-arm in its middle third, and applied six small splints at equal distances apart around it. These "spells," as he called them, were one inch wide, six inches long, and one-fourth inch thick. That night the girl "suffered the torments of hell," and continued to for about forty-eight hours, when it became easy. The bone setter, after the second day, daily dressed it, but did not loosen the bandage until caused to do so by an old woman. In about a week the arm "broke open" and began to be very offensive, but the bone setter said it was all right—just what he wanted to see—took $3.00 in pay for the job, told them by no means to get a doctor, for he would surely cut it off. Thus it went for nearly two weeks, till I was called.

When I arrived, I found the house permeated with the stench of gangrene. The girl was on her back in bed; right arm in a nearly extended, prone position; fingers hugely swollen; back of hand like a puff-ball, and translucent when held between the eyes and the light; fore-arm bandaged and splinted, as above described. On removing the dressings I found a somewhat circular slough over the fleshy part of the fore-arm, four or five inches in diameter, dead and separating down to the muscles, and the whole fore-arm in a dusky red, boggy condition, with almost no healthy integument.

I informed the relatives that amputation would probably be necessary, but would wait another day. So the arm, in which there was no feeling, and which was from wrist down cold, was laid upon pillows, and warmth and poultices applied. On the following day, the 13th, it looked a trifle better. Sloughs separated, feeling returned to fingers,

and I decided to wait another day. 14th, muscles beginning to slough; girl had chill, and I recommended amputation as early as possible.

Early next morning I brought my friend, Dr. E. H. Lewis, in consultation. We agreed that immediate amputation should be performed, and with his assistance I amputated the arm at about the junction of middle with lower third of humerus.

For two or three days the patient had a few chills, but with thirty gr. of quinia daily, and nourishing with milk, beef tea, &c., she made a good recovery in eighteen days, healing mostly by second intention, with but little suppuration.

The girl's guardians have brought suit against the bone setter for $5,000 damages, and the case is to be tried at the June session. This man has set many bones in this county, with very general bad effect, but he learns nothing and forgets nothing, and has attempted to set others since the above case.

Now, there are laws in this country to prevent cruelty to animals, but none that will prevent health robbers from maiming and slaying the helpless children and minors when their penurious guardians or parents try to economize. It is doubtful, too, if a jury can be found that will allow damages in such a case, even if the bone setter happens to have any property (a rare occurrence), for, say they, they all know he is no doctor and it is their own fault. They forget that it is not the one calling the quack that gets injured, but the one to whom he is called. How long shall our profession, claiming to be devoted to the good of humanity, practically say: "We don't care how many quacks are allowed to practice. The people want them, and they increase our business if they do detract from our dignity."

I have now under my care, in the county poor-house, a young man 20 years of age, who, having received a simple fracture of the radius, employed a health-robber and

man-exterminator, who is allowed, fraudulently, to style himself "M. D., Physician and Surgeon." The result was tight bandaging, ligation, gangrene nearly to shoulder, amputation just below shoulder after much delay, and is still in a critical condition. I would report the case more fully but that Dr. E. H. Lewis had the case until removed to the poor-house. This pseudo-surgeon not only still pursues his practice, but audaciously sues the county for a large bill for *professional* services. And to cap the climax, an old woman, ignorant, dirty, squalid, who has achieved wonders in curing hopeless surgical cases, got into the poor-house, won the patient's confidence, and waged a heavy war to be recognized officially as surgeon to the case. Probably fifty cases, where death or grievous injury to minors and infants, could be related as having taken place in the county of Scott during the past year, yet doctors say "laws regulating the practice of medicine are of no use." True, ignorance is dense in this county, but the law allows anybody who chooses to call himself M. D., and does not hold him responsible, criminally, for anything, practically. The people cannot see any difference in our shingles, and are too ignorant to know any difference in our work, even in the most glaring cases. The result is, some people think one doctor is about as good as another, and they have only to try one and then another till they find the one that can stumble onto a cure. Others, hearing that some who profess to be doctors are not so, distrust all who practice in their neighborhood.

COMPOUND COMMINUTED FRACTURE OF SKULL—RECOVERY.

Clinton McD., aged 14, Sept. 20, while trying to lower the windlass of a straw-carrier on a threshing machine, lost his hold and the crank struck him on the head, cut through scalp, leaving a gaping wound, 1½ inches long, fracturing the upper anterior corner of the right parietal

bone. A piece about one inch long and five-eighths wide, and of oblong shape, was depressed the thickness of the bone. The piece was bounded internally by the sagittal suture, and anteriorly a small bit of the frontal bone was included in the depressed piece, this part being loose. The depressed part of the inner table was much larger than the outer one, and shelved back under the free margin of the hole to a great extent all round. The depressed island of bone was so tightly impacted that it could not be raised with the elevator. With a Legg's saw and bone forceps the edges were so trimmed that I was enabled to partially elevate the piece. As there were no symptoms of compression, I concluded to leave the case to nature until signs of compression developed rather than use the trephine. For two weeks the boy remained in about the same condition. There was occasional vomiting, slow pulse, not exceeding sixty, and sometimes irregular about the ninth day; pupils normal throughout.

Treatment consisted of pounded ice applied to the head for two weeks. Scalp wound left open and healed by granulation. Low diet. Wound cleansed with carbolic acid solution. Sulph. Mag. to keep bowels regular. The cut in the scalp was enlarged by one at right angles, leaving a T shaped incision down to cranial bones. At the end of three weeks it filled up with granulations from the bottom. On the twenty-first day I found him vomiting; said he had been talking too much. Wound was healed. The scalp was pulsating over the site of the fracture, and it seemed so soft under it that I believe the island of bone was being absorbed. A few days later I saw him herding cattle; he said he was well. I hear from him now, and he reports himself all right.

Amputation at Shoulder Joint for Injury Received in a Train of Cog-Wheels—Death from Shock on the Fifth Day.

Nov. 7th, Mr. R. P., millwright, aged 65, suffering

from chronic bronchitis, while working over a train of cog-wheels, clothing became entangled and fore-arm and arm were five times through the cogs when the wheel broke and set him free. He walked down three flights of stairs and sat down, exhausted. The cogs had run up the arm to the shoulder, and there were cog marks in the skin over the spine of the scapula. Bones of the fore-arm were ground fine, but humerus was not broken, but nerves and arteries were laid bare to the axilla, and muscles cut completely through by the cogs and pectoralis major was torn across. After four hours, the pulse being pretty good, assisted by Dr. Manson, I amputated at shoulder joint, tying the brachial artery near the axilla, which lay bare before me, before beginning the amputation. A large external posterior flap was first made, the head of humerus turned out, and a short internal flap cut out in severing the arm. Dr. Manson then took charge of the case. The patient did not rally well from the operation, and died upon the fourth day, apparently from shock.

He had received many other bruises about body and legs. But little blood was lost during the operation.

The only points of interest were the ligation of the artery before amputation, and the fact that, though I believed it necessary at the time, in order to get good flaps, to make them as I did, I believe it would have been better to take the risk of sloughing of the flaps from injured tissue and performed Larrey's amputation, by lateral flaps of equal size. For as it was, we had a very large wound and a large flap, which was becoming gangrenous at the time of death.

I also amputated the thigh at about the middle of the femur, in patient of Dr Entrup's. The man, while intoxicated, was run over by a locomotive. He had been a hard drinker, and was nearly sixty years of age. He also died on the fifth day, of septicemia. The stump dried up and the cut surfaces of muscles and other tissues looked dry and black. No pus was formed.

I have had, since our last meeting, a few cases of fracture in the long bones, which may be of interest, since they occurred in the extremes of age.

Oct. 6th, Mrs. S., German, aged 80, not in very good health for several years, so she says, but looked pretty well for one so old, while picking up an infant which was in a wagon box, setting on the ground, slipped, fell on box, and she thinks in getting up she heard the "arm snap." I found preternatural motion, crepitus, little pain or swelling. Fracture seemed transverse and a little above insertion of the deltoid. I bandaged arm from fingers and applied plaster cast in two pieces, one external splint, extending above shoulder and below elbow, and a shorter internal one, with openings at each side, that the arm might be carefully watched.

On the thirteenth day, fearing that the skin might not stand the pressure of the splints or casts, I carefully removed them and found several ecchymosed spots, on which account I put on very simple and light paste-board splints and washed these spots daily with solution potassium citrate. All went well, and in three weeks there was union, and in four weeks all splints were removed and and the arm used to some extent. The case seemed to me worthy of report, from the very complete and rapid recovery in one so old.

Green Stick Fracture of Both Bones of Fore-Arm in Child 2½ Years Old.

Nov. 10th, Maud B., aged 2½ years, fell from a sack of meal about three feet high, striking upon both hands. Found fore-arm very crooked, bent inwards and towards ulnar side. No crepitus—no excess of motion. On forcibly bending bones back to place, a slight pressure restored the bones to position, restoring the contour of the fore-arm. At the same time there was a very audible snap that could be heard for some distance from the little

patient, which was evidently the other side of the radius giving away. It did not seem that the ulna was broken clear across. The seat of fracture was about middle of fore-arm. Dressed with simple anterior and posterior flat, padded splints. Recovery complete in three weeks without deformity.

Fracture of Clavicle in Infant Eleven Months Old.

Nov. 13th, three days after the last case, an infant 11 months old fell out of bed. Mother thought it had broken something, because it cried whenever it was lifted by the arms. There was distinct crepitus, preternatural motion, and sinking of outer fragment. Treated by figure of 8 bandage, with little pad in axilla, and bound the arm to the side and gave proper directions for handling. In less than three weeks there seemed to be very complete and, so far as I could see, perfect union. I showed the case to Dr. Manson, of this town, who fully concurred in the diagnosis.

Dislocation of Ulna Backwards.

Willie C., a boy fourteen years of age, fell from a horse on his hands and dislocated ulna backwards. Sigmoid notch could be distinctly felt, and great loss of motion, fore-arm was at right angles to arm and could not be moved. Simple extension of fore-arm reduced the dislocation, and perfect motion was at once restored. Elbow and fore-arm were put in a very simple pasteboard splint and sling, and left for ten days. Then passive motion daily for two months gave a perfect result. I have also treated a Potts' Fracture, caused by a log rolling upon a man's foot, from the fibular side of the leg; but as it presents nothing of interest I will not report it at length.

James H. Dunn.

OBSTETRICS.

P. H. MILLARD, M. D., STILLWATER, CHAIRMAN.

GENTLEMEN: Your committee upon obstetrics addresssd a card to each member of this Society, in February, asking a report of any cases of special interest in this branch; also asking a report of the frequency in which they resorted to the use of the obstetric forceps in delivery. The following gentlemen have kindly responded to my card:

Drs. Boardman, Wharton, Wedge, Murdock, Cummings, E. J. Davis, Coon, Ayer, Slagle, C. E. Dampier, Gilman, D. B. Collins, Davenport, O. H. McMichael, Chas. Berry, J. F. Force, J. H. Dunn, Lincoln, D. W. Hand.

Dr. Wharton reports one case of cephalic version, accomplished by the "bipolar" method for shoulder presentation. This was accomplished without much difficulty, by pushing up the shoulder with two fingers, and by manipulating externally on the cephalic end of the fœtus, when the head was finally presented at the os. It is all important to retain it in position until fully engaged by uterine contraction. This is one of the improvements in modern obstetrics, and is likely to supercede to a great extent the old operation for version.

In rigidity of the os I have found great benefit derived from a full opiate given to secure a few hours sleep, which is usually followed by a dilated or dilatable "os." I am inclined to think this a matter sometimes overlooked by

practitioners in not distinguishing sufficiently between "rigidity" and partial "inertia." In one case administering ergot, when chloroform, opium, or some relaxing agent is indicated.

In regard to the frequency in which I use forceps, I have to say I am a great advocate for their early application when, either as "retractors" or "compressors" they are called for, on account of "uterine inertia," or whatever condition may render their use necessary, always provided the os is dilated or dilatable. I average their use one case in five. I deem it very important that the operator should ascertain to a certainty that the rectum and bladder are thoroughly emptied by enemata and the catheter before procedure. I am satisfied by their use, the number of still-born children is largely reduced, and the mothers rescued from subsequent disorders resulting from protracted labors and many hours of needless suffering. My rule has been for years, when I have determined in my own mind that the woman is unable to effect her own delivery, the os being in proper condition, to apply the forceps without delay. My preference is for the Simpson's or Elliott's Modification.

DR. J. H. DUNN: I have attended forty-two cases the last year, used forceps in twenty; version, two, craniotony, one. My results were:

Stillborn children, seven; maternal deaths one, from post partum hemorrhage. The presentations were, first position, thirty-five; second position, two; fourth position, one; face presentation, one; shoulder presentation, one; breech presentation, two. Sex—males, twenty-eight; females, fourteen. Twins, one pair, both males.

Nearly half these women have been confined from six to seventeen times, and in those cases which had borne so many children, there was generally great deficiency of effective uterine contractions, and I have given as many as five drachms of ergot (Squibb's fluid extract,) in two

and one-half hours, and finally applied the forceps for uterine inertia. In these cases they did not complain of severe after-pains, as is spoken of in works upon obstetrics. In one case, after the fifth labor, after-pains were caused by nursing the child, four weeks after delivery. The patient said this was the usual occurrence after her labors. I saw several cases, mostly those I did not attend during labor, which did well for the first week or ten days, but which were suddenly attacked with severe febrile symptoms, for which no cause could be detected. In two of these cases the temperature ran up to 104 and 105 F., and in less than thirty-six hours the fever had nearly disappeared, and in others, from one week to twelve days elapsed before recovery. As there was no tenderness in the abdomen or pelvis, and it did not resemble septic fever, I was at a loss to account for it.

My obstetric practice is largely among foreigners, a class of citizens who employ midwives largely, and the cases have been in labor long before my arrival, it is easy to account for the large percentage of instrumental deliveries in this report.

DR. CHAS. BERRY: I have made five forceps deliveries during the past year. Would say further, I consider the discriminate use of the forceps is of the greatest benefit to the parturient female. That their use is indicated more often than is generally supposed, and many cases that would have been tedious to the operator and exhausting to the patient may be brought to a speedy and safe temination by this means.

DR. OTIS AYER: I have lost one woman of puerperal mania, who had a miscarriage in the second month of gestation. I never, or next to never, use the obstetric forceps, and am of the opinion that they are used vastly too much.

DR. E. J. DAVIS: Was called to see Mrs. S. during confinement. A multipara, whose labor was unusually severe for her, necessitating the use of the forceps to assist in delivery. We found upon delivery of the child's head that the cord was wound twice around the neck, (not an unusual occurrence) and in removing it, which required considerable force, we severed it. We then grasped the head of the child and completed the delivery at once. Upon inspection to ascertain where the cord had been severed, we were somewhat startled to find that it happened close up to the child's abdomen. We expected fatal hemorrhage, and as a precautionary measure, placed a compress over the navel and applied the usual band. Contrary to our expectation, there was scarcely any hemorrhage, and the child passed through the first week as nicely as any of her former three or four children had. As another safeguard against hemorrhage, we prohibited the usual washing of the child, excepting the face, for two or three days, fearing the screaming from the application of water to the baby might cause bleeding.

We do not wish to be understood as advocating non-bathing of new-born infants, yet, we believe there are instances, other than this given, where we would be justified in resorting to it, and will give one or two among several that occur to us: It ought to be interdicted in extreme cold weather, especially if the room is cold, in a delicate child, whether the debility be constitutional or from protracted travail in delivery. We have seen hemorrhage resulting from a too vigorous application of water to the new-born babe, and believe that in the near future, more care will be observed in its use than has been in the past.

I cannot just now give you the desired information as to the frequency with which I have and do resort to the use of the obstetric forceps in my obstetrical practice, but will state that I apply them now at least twice as often as I did during the first years of my practice, in the same

class of cases. I have never had occasion to regret their use, and when reviewing my cases at the termination of labor, have often felt that I would have done better had their application been made at an earlier period of the labor. I have had but one instance of laceration of the perineum, when the forceps were used, occurring to such an extent as to require subsequent surgical treatment, and yet this might have occurred had we not used the forceps, because the child had an unusually large head. I cannot recall a single instance where the application of the forceps caused the death of the child. Neither do I remember of ever having lacerated the mother in their application. I admit that they are capable of doing great harm, hence the utmost care should be employed by the obstetrician in the selection of his cases, when and how to apply them, and method of using after their application.

DR. A. C. WEDGE: Have resorted to the forceps in about fifteen per cent. of my cases the past year. One of my cases, a neglected one, had had puerperal convulsions eighteen hours before my arrival. Delivered a child that had been dead for some time. Spasms ceased immediately, but she suffered from puerperal mania for two weeks afterward, but finally recovered.

I have had one case of placenta prævia. Labor came on prematurely at about the sixth month. Hemorrhage very profuse, and allowed to continue eight hours before my arrival. Used tampon and ergot with good effect. Soon delivered patient of twin children, dead.

DR. D. B. COLLINS: Number of full time obstetric cases the last year, 45. Twins, 3; breech presentation, 2; version 2; forceps deliveries, 3—once for placenta prævia and twice for impaction of head in superior strait of pelvis. Prolapsus of cord in four cases. Treated by turning patient on breast and knees and returning cord. As a general rule give ergot in drachm doses, and have no bad results from its use. Still-births, four cases, the result of hemorrhage in one case and delayed labor

in the other three. They had been in charge of women from one to three days before my arrival. As a rule, our foreign born population employ midwives largely. I use Squibb's fluid extract of ergot, and as a rule find it reliable. Use carbolic acid and tar water as vaginal injections, if necessary. Attended one woman who, as the result of a fall, was confined at the sixth month, and gave birth to a male child weighing one and one-fourth pounds. The child lived thirteen days, and died from a bowel trouble.

DR. A. O. GILMAN: Have used forceps in five out of forty-one deliveries the past year. Performed version three times, with loss of one child after sixteen hours labor before my arrival. The recovery of mother in each case complete.

DR. C. H. BOARDMAN: Have to resort to forceps once in from ten to twelve cases.

DR. MCMICHAEL: In one of my deliveries the child was destitute of a cerebrum, and of the cerebral portion of the skull. A small portion of the parietal and frontal bones were natural, and then they abruptly ceased. The edges were covered with skin, which was continuous with the membrane inside. Protruding from and beyond the bones was a mass, resembling a blood clot or piece of liver, which was attached to the base of the skull, but not to the sides, and overlapped the cerebellum, which appeared perfect. The child lived three hours. No post-mortem examination was obtainable. I have attended thirty-four deliveries the past year. Normal presentations, thirty-one; breech, two; foot, one; males, eighteen; females sixteen.

DR. J. F. FORD: I have resorted to the forceps in one out of every six cases the past year. This may seem a large proportion, but among our foreign born population the midwives do the work of this branch. I use a Hodge forceps, but think the long handles in the way, at times. Performed version in a right shoulder presentation.

Seized the feet with much difficulty. Child born dead. Mother had been in hard labor fifteen hours, but made a good recovery.

On the 9th of April I attended a woman who was delivered of triplets, all born alive; two have since died. Performed one craniotomy, mother making a good recovery.

DR. A. J. MURDOCK: I resort to the use of the obstetric forceps in about five per cent. of my cases.

DR. D. S. CUMMINGS: I resort to the use of the obstetric forceps in about seven per cent. of my cases.

DR. SLAGLE: With twenty years' practice and an average of thirty cases a year, I have not had occasion to use the forceps to exceed a dozen times.

DR. H. L. COON: Attended thirty-one cases of obstetrics the last year, and used the forceps twice. In one of my cases, a primipara, aged thirty-eight, I failed to deliver with the forceps, but finally turned and delivered the body, but the head refused to follow and was above the brim of the pelvis. After some trouble the arms were brought down and finger introduced into mouth, and by the help of an attendant using traction on the feet, I was rejoiced, after an hour's hard trying, during pains, to find head and body delivered. Child was still-born and mother made a good recovery, after a twenty-four hours' labor.

DR. C. E. DAMPIER: I have attended, during the year, seventeen cases of labor, all head presentations in the first and third positions. Although I had obstetric forceps with me in all cases, I had no indications of their use. Had one child still-born, being dead before labor commenced. Had two cases of post-partum hemorrhage, which I controlled by compression of the uterus. Used chloroform in three cases, during second stage, and saw no ill effects therefrom; upon the contrary, in one case it seemed to increase the force and regularity of the pains. I have often used chloral in the first stage, when the pains were weak, inefficient and irritating, and patient nervous,

and have always been well pleased with the result, the patient becoming quiet and often sleeping, the pains growing stronger and more regular, and the os seeming to dilate much more rapidly.

Gentlemen, your committee find, from the reports of the physicians who have responded to our card, that they resort to the use of the obstetric forceps in sixteen per cent. of their deliveries, the highest ratio being forty-eight and the lowest two per cent. From the reports, you will observe that the parties furnishing them are distributed in leading sections of the State, and most liable to be called upon in cases of difficult or unnatural labor. I should estimate that fully one-half the population of Minnesota to be of German, Scandinavian and French nationalities, and that a physician is not called to the female in natural labor in more than fifteen per cent. of the births among these people. This being the case, the ratio of sixteen per cent. is too large by at least six per cent., which would make the average frequency of their use, where the physician is called in the first stages of labor, to be about ten per cent. My books show that from March, 1872, to June, 1881, I have delivered four hundred and sixteen women, and used the forceps sixty-six times. I estimate that fully one-half of my instrumental deliveries were in cases I have been called to by the midwife, or other physicians. I find, by my correspondence and intercourse among the members of the profession, that the younger members are predisposed to their too frequent use, and that some of the older members are prejudiced against their use at all. Dr. A. J. Murdock, who has a very extended field of practice among foreigners, and an unusually competent and conservative physician, only uses the forceps in five per cent. of his cases of delivery. Dr. D. W. Hand, whose judgment we never question, employs them in ten per cent. of his cases. Dr. Wharton, an unusually conservative and successful obstetrician and surgeon, finds it necessary to use them in twenty per cent.

of his deliveries. No operation in midwifery has grown more in popularity the last twenty-five years than the delivery by the forceps. Obstetric literature tells us that Dr. Joseph Clark delivered one woman in five hundred with forceps, in 1780; Dr. Storer one in fifty, in 1840, and the modern obstetrician one in ten cases, in 1880.

We are also informed that the French forceps of 1825, weighed two and one-half pounds. By comparison, it is easy to see that the progress made in this branch of our profession has been fully as great as in surgery and practice. I desire to call the attention of this Society to the present great popularity of the tiny short forceps. I claim a man is not justified in delivering from the inferior strait with any other instrument. Traction being all the assistance needed in this instance, we can deliver with greater safety to the perineum by the use of this instrument. My experience with their use has been most pleasant. They can be adjusted with the head quite well up in the strait, and if the question of compression is of doubtful propriety, why need we resort to the long forceps where the short can be easily manipulated?

Dr. A. J. Stone, of this State, has invented a short forceps that has many points that are superior. It protects the perinuem, as the handles are so dropped as to give a greater leverage during traction. It will render their use much safer in the hands of inexperienced operators.

I thank the gentlemen who have contributed toward this report.

OBSTETRICAL STATISTICS.

During the year 1880, in forty-nine obstetric cases, I delivered with the forceps seven times, and by version once, the forceps deliveries being fourteen per cent.

During ninteen years, in six hundred and twenty cases,

I have delivered with the forceps thirty-eight times, and by version about eleven times, the percentage of forceps deliveries being six. The majority of the cases of forceps delivery were where labor was simply difficult or retarded because of uterine inertia with position normal. The conditions demanding version have been—first, abnormal presentations, and, second, pelvic deformity. Of the latter, I desire to mention especially cases in which, from contraction of antero-posterior diameter of the superior strait, from undue prominence of sacral promontory, or from such unnatural obliquity of this strait, or from any other cause or causes, the head of the child fails to descend into the pelvic cavity. If experience has taught me anything in these cases, it is that version is the proper treatment.

Concerning the frequency with which the forceps should be used in ordinary obstetric practice, I will remark that, in my opinion, my patients fared better at my hands when the percentage of forceps deliveries was fourteen than when it was six, and that the fourteen per cent. would be improved if it were made larger.

In the management of all obstetrical cases, where important aid is demanded, I think the following are the important requisites: Chloroform, the forceps, a skillful hand, and good sense.

FRANKLIN STAPLES.

SHAKOPEE, JUNE 24, 1881.

DR. MILLARD, Stillwater, Minn.,

DEAR SIR: I sent you a short report of my cases. It was very hurriedly written, and I did not state some facts as fully as I thought I did; nor did I appreciate the connection in which it would appear.

I believe in reporting cases, not for one's own glorification, but for any facts, no matter how ugly they may be, which are useful to science. I believe the connection in

which my cases stand without further explanation, are only in a position to do me harm. I would therefore ask of you that the enclosed note be added to the cases, or that they be stricken out of the report. I know the report is now out of your hands, but perhaps it could be handed to the committee in whose hands it is.

Of course, I do not wish to go upon record as advocating, in a special report, on the use of the forceps, their application in forty-eight per cent. of all cases. If you will go to the trouble to look into the matter, you will greatly oblige.

Yours respectfully,

JAMES H. DUNN.

NOTE TO REPORT OF OBSTETERIC CASES TO MEDICAL SOCIETY.

There are in the region covered by these cases, according to official reports, about four hundred and fifty births annually. Of these, as near as I can learn, about one in five are attended by physicians. I was engaged before labor began, in only five or six cases. Thus the forceps would be only applied in from one-sixth to one-tenth of the total number of births, and I believe the proportion to be far less. Four cases were consultations. In the majority of the cases, the operation was the trivial one of applying the forceps to a head low down in the pelvic cavity. In five or six the head was at the brim or high in the cavity. In a few cases of old Irish women, who became despondent or ugly with delay from insufficient pains, with head well advanced, I used the forceps to gain *time*, for which I never expected to receive thanks or pay. Of the still-born children, only one was delivered with forceps. The cord had been prolapsed for three hours before my arrival, and was pulseless. In no case was injury done to child or mother that could be discovered by myself or the patient. J. H. DUNN.

Absence of Radial Pulsation for More than Three Hours—Restoration of Pulse and Complete Recovery—Hypodermic Injections of Whisky.

P. H. Millard,

Chairman Committee on Obstetrics.

Mrs. M., not wishing to increase the number of her family, had used a "syringe," and wanted me to give her some medicine which would complete what she had so well begun. The manifest result of my refusal was the attendance of another physician. For some weeks I heard nothing from the case, when one day word was passed on the street that she was very low. At 4 P. M., a messenger came for me, but as I was away and did not return until 8 P. M., I did not answer the call. At 9 P. M., a lady neighbor came to my house and urged me to go, "for," said she, "the woman is dying, and begs them to send for you to save her for the sake of her children." I went with the messenger, not with the hope of doing any good, for I did not suppose she had been abandoned while there was the shadow of hope, but that I might not remember that I had refused the last request of any fellow mortal. The patient was palid and pulseless. An intelligent midwife said she could not count her pulse at 3 P. M., and that the doctor told her that it was gone at 5 P. M. Then the priest was sent for and performed the last rites. The midwife had placed the tampon with vinegar, and there was no further loss of blood. I placed five hypodermic syringes of whisky at once, in different localities, and after a short time thought that I could detect an arterial thrill. She vomited, and I learned that she had vomited several times during the afternoon and evening. I at once went to the nearest house, that of my partner, Dr. Van Dyke, and asked him to take charge of the case, as I had been up for the two nights previous. Before leaving, I gave half a pint of new milk and two

ounces of whisky, by injection, per rectum, and the doctor continued, from time to time, the hypodermic injections of whisky, using in all more than an ounce. It was not until after 4 A. M. that he felt confident to give a favorable prognosis, and the pulse had not got volume and regularity until 7 A. M.

The injection did not pass from the rectum, and the large amount of stimulant and nutritious aliment no doubt did good, but Dr. Van Dyke, who watched her carefully all night, is of the opinion that she would not have continued to rally had not the hypodermic injections been constantly repeated. His perseverance was repaid.

WM. S. LINCOLN.

ST. PAUL, JUNE 15TH, 1881.

DEAR DOCTOR: How well I remember my first case of difficult labor, and the anxiety with which I brought out my carefully selected forceps. It was a French woman in her seventh labor, and to my horror she informed me she had never borne a living child; they had always been taken away with instruments, and dead. An examination revealed a contracted pelvis, a fully dilated os uteri, and the head presenting at the superior strait. I immediately went for my forceps and for my friend, Dr. Wharton, and then what a time we had that hot afternoon in June, long ago!

We applied the forceps and they slipped; applied them again but could not bring the head to engage at all. At last we perforated the head and withdrew the contents. Pulled with hooks without avail, then reapplied the forceps and made no progress; finally we brought down the feet and delivered the mutilated child without much difficulty.

All this time the woman was comfortably under chloroform, and when it was all over waked up much less exhausted than the young doctors who had found in her their first bad case. We supposed, however, she would

be in danger from inflammation, and visions of peritonitis haunted me, when next day I went to pay her a visit, you can imagine my surprise, when I found her house empty, and the neighbors told me she had, that morning, walked into town, over two miles, and taken the boat for St. Louis. We had under estimated the endurance of the French women.

Although in this case my favorite forceps failed me, it did not lose my confidence. My books show that in twenty years I have delivered four hundred and eighty-six women, and have used the forceps forty-eight times; making a proportion of about one to ten. This does not include cases when I have been called in consultation. I find, also, that among these four hundred and eighty six cases, I have thirty-three children still-born; and I cannot understand the figures of some writers, who claim that in so many thousand births, they had only two or three still-born. I know that among my cases, a number of the children were dead for days before labor came on, and then it is my belief that there is always a certain amount of risk to the child in labor, and in spite of all assistance it will occasionally fail to breathe. This risk is greatly reduced by the early use of the forceps. I can recall no case when I thought the child was lost through the action of the forceps, but several when I bitterly upbraided myself for not applying them earlier. The child's danger is diminished, not aggravated by the forceps; and the comfort that comes to the mother through the more speedy delivery is such, that it is common for women who have once been delivered by the forceps, to demand their employment in subsequent labor. In the language of Leishman, "it is scarcely possible to exaggerate the importance of this instrument, which is simple in construction, easy of application, and marvelous in power." While the ancients were no doubt in the habit of using instruments in assisting women in labor, it was not until the latter part of the seventeenth century that Dr. Paul Chamberlain invented,

and with his sons brought into use the instrument we now call the *obstetrical forceps*. Since that time it has undergone many changes in form and size, but the principle has remained unchanged. In the hands of a skillful operator any of the different forms of forceps answer well, but experience has shown that the long double curved forceps is the one adapted to the most cases, and the most generally useful, therefore the young practitioner who will probably have but one pair of forceps should see that they are of this pattern. Hodge's, Elliott's, Wallace's and Davis' forceps are all admirable and combine the greatest advantages possible. They are from fifteen to sixteen inches in length, and can be used when the head is on the perineum, in the lower part of the pelvis or at the superior strait. For use at the inferior strait and at the perineum, the *short forceps* may be used. This is an instrument about eleven inches in length, having long fenestrated blades either curved or straight, and very short handles. It has little power, and we cannot rely on it to any great extent. The ingenius instrumeut devised by Dr. Stone of this city, has a peculiar curve to the handles, and can often be used without alarming the patient, but in my opinion it is only a delicate toy. The use of the short forceps must be limited to those cases, when after adjusting the blades it is possible to close them while the lock is still quite clear of the external parts; and after all, it can do only what could as well be done by the long forceps, with which we should all be familiar.

Dr. Hodge says: "Habit imparts facility and skill to an operator, and as the long forceps are equal to the short at the inferior, and must be employed at the superior strait, it is best for the practitioner to accustom himself, at all times, to the one instrument."

Cases requiring the use of the forceps are very variable in their general features. Want of proper expulsive power or *uterine inertia*, slight deformities of the pelvis, mechanical obstruction, whether in the hard or soft parts, faulty

presentations which cannot be corrected by the hand, especially in occipito-posterior, and face presentations, etc. The necessity for using the forceps arises much oftener in primiparæ than in women who have borne children. There can be no fixed rule as to when the forceps should be used; but I believe that as soon after full dilatation of the os uteri as it is apparent the head does not progressively advance, and the woman is becoming fatigued by the unavailing pains, the forceps should be applied. We should rarely wait over two hours after full dilatation.

Leishman says that, "when properly applied and skillfully manipulated by an educated and judicious physician, they cannot possibly injure the mother. Careless application of the instrument may be detrimental to both mother and child, but properly and scientifically used, it shortens and diminishes the suffering of the one, and may be the means of saving the lives of either or both." It was a safe rule of Dr. A. H. Smith, of Philadelphia, that "in normal pelves he never allowed his patients to suffer long after the full dilatation of the os uteri had taken place." With few exceptions the blades of the instrument should be applied to the sides of the child's head; and to do this properly, the exact presentation must be made out. Then with the woman flat on her back, and with the hips drawn well toward the edge of the bed, and feet properly supported, the warmed and greased blades are carefully introduced. There is no necessity whatever of exposing the woman at all. The touch should direct the course of the blades. The position on the back gives the operator more freedom of action, and the pelvis being firmly fixed on the bed, he can more readily recognize the relative points of the pelvis with the head of the child.

Dr. Hodge advised against the use of *complete* anæsthesia before using the forceps, but it certainly greatly facilitates the operation to put the woman sufficiently under the influence of chloroform to quiet all apprehension and excitement. The best test that the forceps are properly ap-

plied to the head, is the perfect locking of the blades after their introduction. When applied, they act mechanically in three different ways, that is, by compression, by traction, and by a double lever action. The tact of the operator will guide him as to the proper amount of force to use in performing these different motions.

Some compression must always be made by the forceps, and, properly regulated, it can do no harm. It is always to be remembered that the pressure made on the head by the forceps diminishes that made by the head on the tissues of the pelvis, and thus contributes to their safety. When making traction, care must be taken that the blades firmly grasp the sides of the head so they will not slip or move on the scalp, and the same caution must be exercised when making the double lever motion, first toward one thigh and then toward the other. Of course these motions must be very slowly performed. We must never be "in haste to deliver." The great difficulty generally existing at the bony strait; as soon as this is overcome, there is danger of allowing the head to pass through the soft parts too rapidly. Time should be allowed for the gradual distention of the orifice of the vagina; and especially should care be taken as the perineum slides over the face and chin of the child, that it is not injured by the point of the forceps, which may sometimes project beyond the face of the child. To avoid this danger, Velpeau recommended that the forceps be removed from the head while it is still in the vagina. Formerly I made it a rule to do this, but could never see that it was of any advantage, and now I am satisfied to leave the forceps in place until the head is delivered. This accords with the teaching of Hodge, who believed the liability to injury of the perineum was not enhanced by the presence of the blades.

Velpeau was also a strong advocate for the use of the forceps at the superior strait. He claimed that it was eminently safe, and here differed with most of the best

writers on obstetrics. This is now generally conceded a very serious operation to both mother and chlid, and I think when it is possible counsel should always be called before undertaking it. There can scarcely be a stronger contrast than between a case requiring the use of the forceps when the head is at the inferior strait, or on the perineum, and one in which a contracted brim prevents the head from entering the pelvic cavity. In the one case the whole operation is so thoroughly under our control, it is a pleasure to undertake it. In the other we are operating in the dark, and at a great mechanical disadvantage, and no one can or should apply the forceps in this position without feeling the great responsibility resting on him.

In all cases of pelvic presentation, or when delivery is made by the feet, we should have the forceps at hand, lest difficulty should arise in regard to extracting the head. In fact, it is well, in attending all cases of labor, to have a pair of forceps with you. They may not be needed, but their presence gives you confidence and satisfaction. Having the instrument always with him must not, however, lead the young practitioner to make too frequent and unnecessary application of it. Leishman wisely warns him "that no mere question of time, or of his own convenience, can ever be a sufficient warrant for operative interference."

Yours truly,

D. W. HAND.

DR. P. H. MILLARD.

PUERPERAL MANIA.

This is the form of insanity by far the most common during the period of lactation. Probably six out of seven cases of insanity occurring during lactation are of this type, and as this is the form of insanity which should be treated, at least for the first thirty days, at home, it is important that all practitioners of medicine be familiar with

the symptoms by which the disease is to be diagnosed, and also with the best means both as regards the mental and moral treatment as well as the theraputia indicated.

Puerperal Mania is more often manifested in the first two weeks after labor, though it may be delayed for several weeks, when it is apt to give way to melancholy after a short outbreak of violent manifestation.

The prodroma may continue from a few hours to as many days, and among the symptoms to be noticed is what may be termed a shyness of manner coupled with excitement. The patient may be loquacious beyond her usual nature, or she may answer all questions in monosyllable; she may alternately laugh and weep. She may complain that the room is too light or too dark; too cold or too warm, when there seems no cause for such complaint. A not unfrequent complaint is of bad odors when the air is pure. Sleepless nights and days; and those nervous muscular movements which suggest delirium tremens. When any or many of these symptoms are observed, be on your watch for an outbust of mania.

There is a certain facies at the outbreak not to be described in words, but which speaks without a tongue. Cold, pallid, terror-stricken, all combined, do not reveal the whole. A cold, clammy perspiration bathes the face, and a wild stare is followed by boisterous incoherent vociferation, and while wildly clutching at the bed clothes or anything within her reach she will attack imaginary objects and exhaust her whole strength in the shortest space of time. An unwise attempt to quiet her by reasoning or persuasion will be followed by the reiteration of your words in combinations which may make you shudder. Religious training and culture go for nothing now, and it is your duty to protect your patient, so far as in your power, from the ears of those who have more ears than good sense. Your patient may threaten suicide, by word or by act, but it is a momentary impulse and not a well-planned determination.

If your case is one of puerperal mania, you will readily differentiate it from delirium tremens, and from the delirious accompaniment to puerperal fever, by the cold, pale, clammy surface, the quick pulse with low temperature, the pinched features, and the general muscular weakness, followed by momentary display of considerable strength, followed by almost complete exhaustion, from which the patient will rally only to repeat the same role. While diseases may remain latent during early period of an attack of puerperal mania, and may constitute grave complications which threaten the patient's life, still, uncomplicated puerperal mania is not prone to cause death. The event most to be dreaded is that, failing in successful treatment, dementia will ensue, and the mother will be dead to her children and friends; she may die from coincident disease, but rarely from mania. Authorities are not a unit on this subject more than in other branches of medical science, but the weight of authority seems to indicate that in this form of insanity heredity does not play so important a part as in most other forms of insanity. It seems to be more due to direct causes, among which anœmia of the brain, caused by severe labor and accompanying depression of the nervous system, are among the more potent causes for the development of the disease. Some writers have laid considerable stress on the moral causes, but it is not easy to weigh those causes in a series of cases, and while they may seem to apply to one case we could hardly form a rule from isolated cases.

We are rarely called upon to prevent particular forms of disease, and may, therefore, the more strenuously devote our energies to care and relief of this malady when we meet with it. And here let me urge that the general practitioner must prepare himself to diagnose and treat the case for thirty days in this western country. It is not safe to carry a case to the hospital during the first two or three weeks, for the exposure might induce pneumonia or peritonitis or pelvic-cellulitis, which would almost cer-

tainly destroy our patient. Admitting it as the rule then that it is our duty to treat cases of puerperal mania at the home of the patient for the first two or three weeks at least, what then shall be our plan? What shall we avoid as harmful? What shall we insist upon?

First, we should select a wise woman for a nurse, and while she must never domineer she must dictate not only the patient but to the whole household in the absence of the physician; and to no one element among the curative means will you be more indebted for the well-being of your patient than to the faithful and intelligent nurse.

There is no one fact better established in regard to this disease, than that the essential pathological condition is anœmia, and we are thereby instructed that the so-called anti-phlogistic measures must never obtain. Indeed, our fathers, while they bled the maniac until the quiet of syncope was fairly established, learned from experience that the lancet was followed by certain dementia too often to make it a popular remedy. The brain needs nutrition to steady it down to a working condition, and to this end the elements of nutrition must be introduced into the system, and the nurse who can best succeed in inducing the patient to fill her stomach with nutritious food of easy digestion, and ready assimilation, is the one who best dispenses the proper medication. Tonics are useful, and that form of ferruginous preparations which can most easily be administered, is always indicated. But, of all the essentials, rest to the brain, and indeed to the whole system, is a condition which must be secured, and happily for the patient, for the nurse and for the friends, this is attainable by a safe agent—chloral hydrate. And while all preparations containing opium or its products, may hasten the dreaded condition, dementia, there can be no doubt of the safe and beneficial results of the chloral as a hypnotic. The accompanying diseases or complications, pneumonia, peri-cellulitis, peritonitis, must be treated according to the circumstances of each case; but with any of

these complications, the prognosis must not be neglected, for while from eighty to ninety per cent. of uncomplicated puerperal mania may recover, and a share of the remainder live to pass into dementia, the complications kill and the recoveries are fewer. Again let me reiterate, do not send your puerperal patient to an asylum if you can otherwise provide for her during the first thirty days of the disease. Better send to the asylum for a competent nurse, for you may kill your patient by exposure on the road to the asylum,—not only climatic exposure but that nervous exhaustion consequent to the journey.

GYNÆCOLOGY.

BY G. F. FRENCH, M. D., MINNEAPOLIS.

In the department of Gynæcology, the topic which excites the liveliest discussion the world over, is the merits of the operation for laceration of the cervix uteri.

Quite a distinguished medical writer, in a recent address before the American Medical Association, unfairly compares this operation with the incision of the cervix uteri for dysmenorrhea, advocated many years ago by Sir James Simpson, and after remarking, as all eminent gynæcologists admit, that that operation is rapidly passing into oblivion, and has a very limited application, he adds: "a similar fate may safely be predicted for several operations now held in high esteem, such as the operation for laceration of the cervix uteri, Freund's method for the complete extirpation of cancerous uterus, Pond's Cæsarian sections, followed by excision of the uterus, etc." No sensible gynæcologist, understanding that dysmenorrhea has a great variety of causes, ever imagined that all forms of painful menstruation could be cured by an incision of the cervix. When the operation is restricted to its legitimate and limited application, it does prove a satisfactory one. The incision of the cervix is a radical operation, that of trachelorraphy a conservative one. If the normal virgin uterus is right, we may safely infer that the torn organ is wrong, and ought to be mended.

Physicians who expected to cure dysmenorrhea caused by ovarian disease by incision of the cervix, belong to that class who expect trachelorraphy to remove all the ills a woman suffers from, including backache of renal origin, and headache caused by disease of the eye. Practitioners often make their prognosis too sanguine, promising indiscriminately, without properly differentiating the symptoms. A patient, full of complaints and every variety of symptom, is found to be suffering from laceration of the cervix, and is promised speedy relief from all her ailments through the operation of trachelorraphy. She submits to the operation and demands the promised benefit. But the pelvic pains have not all disappeared; those due to cellulitis have subsided, but others, equally severe, linger in the ovaries, and headache, caused by some error of refraction, is as intolerable as ever. In the estimation of the patient the operation is a failure, and very probably the operator, equally disappointed, falls into the ranks of those who decry the operation. I am not drawing on my imagination, but citing a case from observation.

Another cause of failure is the manner of operating. The lips are denuded superficially and approximated, but all the granulation tissue is not thoroughly cut away. The wedge of scar tissue, which seems to torment the nerves of that part as it does the nerves of an amputated stump, is allowed to remain an unremoved cause of irritation. The complete involution of the uterus, which is favored by the depletion of free incisions, is not secured, and misplacement, due to enlargement of the organ, which is most effectually cured by that involution which naturally results from a proper performance of trachelorraphy, persists unrelieved. The alarming cellulitis, which sometimes follows this operation when the patient has not been properly made ready, is sufficient to discourage operators who regard the accident as a danger inherent to the operation. Trachelorraphy should not be considered an antiphlogistic procedure, but a means of riveting the good

obtained by all antiphlogistic measures. It is my experience that the benefit derived from hot water treatment in shrinking the uterus and melting away cellulitis connected with laceration of the cervix, is of transient duration. Relapses are, I think, inevitable without trachelorraphy, but after the operation, it is the exception to see relapse occur.

How is it possible to treat misplacement successfully without first effecting the involution of the uterus? Trachelorraphy will nearly always effect this when all other means have failed. When a man of Emmett's sagacity and patient honesty, or a number of men whose discernment and observations shall, in the aggregate, equal his, arrive at opposite conclusions respecting the merits of this operation, it will be time for us to consign it to the fate so prematurely predicted for it. Until then, I must believe, with Goodell, that "when properly performed, it is the most successful operation in all uterine surgery."

GEO. F. FRENCH.

October 6th, 1878, was consulted in my office by a lady forty-two years old, on account of excessive menstruaion which began moderately, fifteen years before, gradually increasing till now, for several years, it had amounted to actual flooding. She had borne two children, twenty and twenty-two years old respectively. The labors were natural, the first being complicated with adherent placenta, which was not followed by inflammation or any symptom which could be regarded as the antecedent of the present menorrhagia. Three years before, as she states, this profuse menstruation began to be accompanied with pain, which had steadily increased till at this time it was as severe as travail pains, very closely resembling them in character, and prolonged intermittently one or two days. On examination, I found the uterus of normal size, mod-

erately retroverted, very sensitive to touch, and a tumor nearly the size of a turkey's egg, in Douglas' cul de sac, which I took for a fibroid. There was evidence of considerable periuterine cellulitis. I expressed the opinion that the hemorrhage was occasioned by the presence of the tumor, which was probably interstitial and had advanced near enough to the endometrium to cause engorgements of the mucous membrane.

A few days later I was sent for to attend her in one of these attacks of menorrhagia and pain. The flow was real flooding, and the pain as severe and as prolonged as I ever witnessed in travail. I administered half a grain of morphia hypodermically, and repeated it three times, at intervals of from half to three-quarters of an hour, before there was any relief. Topical astringents so aggravated the pain, it became necessary to abandon them; ergot internally, was equally inefficacious. Month after month I spent, sometimes a day and a night, combatting the pain and menorrhagia. The flooding persisted, and the pain finally required two and a half to three grains of morphia to subdue it. Finally, as the excessiveness of the hemorrhage sometimes seemed to mitigate the pain, all efforts were directed simply to the relief of pain, which had effectually resisted the prolonged administration of chloroform. Inevitably the patient became blanched, her strength gave way and a fatal termination seemed impending. At this juncture, in April I think, I took my patient to New York, and sought the counsel of Dr. Emmet. After a thorough examination, he astonished me by saying the hemorrhage is not caused by the tumor, but by cellulitis, and hot water will stop it. I went home with a new idea, put my patient to bed, and for three months subjected her to the most rigorous hot water treatment, according to Emmet's method, an hour and a half each day. The pain and hemorrhage gradually abated, opiates were dispersed with, and at the end of twelve weeks the

patient got up, entirely well. The tumor which I had mistaken for a fibroid, proved to be the product of cellulitis, and entirely disappeared.

GEO. F. FRENCH.

RED WING, JUNE 16TH, 1881.

DR. GEO. F. FRENCH,

Chairman Committee on Gynæcology, State Medical Society:

DOCTOR: I have to plead so much work of my own as to have had only occasional leisure to contribute to the reports of the committees of the Society. In lieu of reporting cases, of which, if you get reports of what has been done, in an operative way, you will have a superabundance. I beg leave to submit a note on a view of the field which deserves more attention than it, at present, receives.

THE RELATIONS OF THIS CLASS OF DISEASES TO THE MENTAL CONDITION.

I suppose it to be true that the treatment of this class of diseases is more and more mechanical, *i. e.* surgical, and that medication is more and more addressed to meet or prevent what are called nervous complications. The etiology, not only of uterine and ovarian disease, but of the female system in general, is sought for, and largely attributed to the condition of the uterus and ovarus. How rarely is backache, or neuralgia of muscles of back or loin, or general malaria explained in any other way? especially if any degree of displacement from the ideal standard, or affection of os; luccorrhœa, or wrinkle in the surface of the cervix, appear to clinch and justify the diagnosis.

The disorders, classed as varieties of sub-acute metritis or ooporitis, and as functional disorders, and sympathetic affections of womb and ovaries, are receiving abundant

attention at present. Their classification and nomenclature are becoming so involved and difficult, that very few can find time to "get them up" at all. These affections are protean in form, obscure in diagnosis, obstinate in treatment and constantly recurring. The feature, however, to which I wish to call attention is that in tracing their etiology, their intimate association with the nervous system is constantly acknowledged.

Emmet says: "The various nervous manifestations which are grouped together under the term hysteria, are, as a rule, intimately associated with some menstrual disorder. Even a comparatively slight local cause of visitation will frequently produce a marked disturbance of the brain or other portion of the nervous system. Again, the brain will react on the local condition to such an extent that the influence of mental depression, in some individuals, over the progress of uterine disease, is remarkable and quite evident. The greater development of the ganglionic system renders women more liable to reflex disturbances from the ovarian or uterine disorder."

But few physicians need any evidence beyond their own experience in this matter. More than this, I believe all recognize the fact of an alarming increase in nervous disorders among women, as among men, and that they are largely associated with the belief (on the part of the patient, at least,) that they are caused by some form of sexual disease. The mental affection, in such cases, is some form of depression, often absolute melancholia. Witness the extremity of the profession and the patient, when, as a *dernier resort* for the vague symptoms classed under ovarian irritation, Beatty's operation is performed, with a mortality of five in twenty-eight cases, and a relief to the survivors so slight as to give little encouragement for its repetition in other cases. This side of these disorders is the most pathetic, and makes the whole class the heaviest drain upon the general practitioner's patience and resources. It is nonsense of the most arrant charac-

ter to suppose that the family physician can (or should tnrn such cases as I have referred to over to the "specialist." The simple truth is, that except in the case of some of the major operations, the general practitioner ought to be able to do all that can be done, with consultation in case of doubt or difficulty. Beside, there is a natural distrust of "specialists" in the profession, for which the specialists are chiefly to blame, and their average success in these cases is not so great as to encourage resort to them, except as above stated.

Again—and this is my own reason—it would be impossible to turn over these cases in the stage when all concede most can be done for them—*the very earliest stage at which the disease is recognized.* The family physician *must*, therefore, be able to treat them; and the chief object of this note is to call renewed attention to the danger of inducing or encouraging that morbid mental condition, which is a greater evil and more difficult of removal, than many an uterine or ovarian affection, which is the beginning of these morbid states, of which it is the result. I wish to emphasize the necessity for the maintenance of the mental and moral tone of the patient—her courage and her hopes. She should be made to understand that menstruation *may* be a natural process—that conception, pregnancy, and even delivery of a child is *possible* without a rupture of cervix or perineum—and that a *succession* of such events are *consistent* with average health. She ought to be made aware that there are other important organs in her anatomy than the sexual apparatus, and that it is not *invariable* that all the causes of her *malaise* and actual diseases are confined to that set of organs. She will be the more easily influenced toward healthy thought and belief in this direction, if she is prompted thereto by the healthy and hearty belief of her attendant that the Almighty, in making her a woman, did provide for the healthy performance of all the duties which her sex involves, and that such faith, backed by an intelligent de-

termination to get right and keep so, will do more to prevent disease and effect recovery, than aught else in her power to do. The secret of success in treatment is largely found in the maintenance of mental tone, and the avoidance of everything which shall make the ailment the subject of anxious thought during the day, and of wearying dreams at night, to a patient least able to bear the added strain.

Yours truly,

CHARLES N. HEWITT.

DISEASES OF CHILDREN.

L. P. DODGE, M. D., FARMINGTON, CHAIRMAN.

MR. PRESIDENT AND GENTLEMEN:

After consulting my associates in the committee on diseases of children, it was decided to make cerebro-spinal meningitis the subject of our report.

The committee on practical medicine, in 1873, reported on the same disease. Therefore, your committee, being aware that the disease had prevailed in very many localities in the State the past year, thought it advisable to continue the history of this disease in Minnesota.

We addressed a circular to every member of this Society, requesting a report of his cases of cerebro-spinal meningitis during the past year, fourteen of whom very kindly responded, for which we are grateful, viz.:

Wm. L. Lincoln, M. D., Wabasha.
C. E. Dampier, M. D., Crookston.
Talbot Jones, M. D., St. Paul.
H. L. Coon, M. D., Northfield.
A. C. Wedge, M. D., Albert Lea.
C. H. Boardman, M. D., St. Paul.
D. S. Cummings, M. D., Waseca.
J. F. Force, M. D., Heron Lake.
J. H. Dunn, M. D., Shakopee.
A. J. Murdock, M. D., Taylor's Falls.
C. G. Slagle, M. D., Winnebago City.
D. W. Hand, M. D., St. Paul.
Jas. Davenport, M, D., St. Paul.

Together with the report of the chairman of the committee, our report represents twelve counties of the State, and seventy cases of the disease.

Dr. C. Berry, of New Ulm, reports that there has not been a case of cerebro-spinal meningitis in that vicinity during his ten years residence. Drs. Wm. L. Lincoln, Talbot Jones, C. E. Dampier, C. G. Slagle and James Davenport have not met a case during the year.

For the benefit of comparison, your committee requested the members to report cases in adults as well as those of children, and we have incorporated the same in this report

Dr. J. F. Force, one case—adult. It occurred in March, and terminated fatally in nine days. The prominent symptoms were chill, headache, violent delirium, increased cutaneous sensibility, clonic spasms, dilated pupils, head retracted and constipation. Treatment consisted of blisters, bromides, chloral and opium. The Dr. mentions a case near him, an adult who had ice continually applied to the head, and morphia cutaneously, with apparent benefit for a time, but finally delirium and constant jactation supervened, followed by death.

Dr. D. S. Cummings met with five cases, all in March. Two were adults, and three children. The children's ages were three, four and twelve. He observed prodromic symptoms in one case, an adult, who complained for a day or two of lancinating pains in his legs, followed by very severe chills. Headache was present in every case; extreme delirium in two. Petechial eruption was present in one case. Pain in spine and limbs in two. There were spasms in one case only, the youngest. Retraction of the head, with rigidity of the posterior muscles of the neck, in all. There was no paralysis, iritis, nor conjunctivitis, pupils mostly dilated, irregular strabismus; vomiting was present early in the history. Constipation accompanied every case. One case, an adult, proved fatal in six days. The one twelve years old recovered after a lingering convales-

cence of six weeks. The others recovered within ten weeks. Diphtheria and eruptive fevers were prevailing at the time. The Dr. did not make use of general or local bloodletting nor cold, but used ergot, gelsemium, blistering, chloral, belladonna, and quinine, with no apparent benefit. The quinine seemed positively hurtful. Bromide, opium, and hyperdermics of morphine were the most satisfactory remedies employed,

Dr. C. H. Boardman reports: I have had but one case of cerebro-spinal fever in my practice, this winter.

A little girl, aged ten, of ordinarilly good health. I know of no special prodromata. She had been ailing for two days when I was sent for, and as I was at first inclined to think, seemed to be suffering from sub-acute rheumatism. There was tenderness of several joints, with severe swelling and redness of the affected parts. A pulse of 120 and temperature of 101 deg.; a furred tongue and tendency to constipation, with headache. Retraction of the head, unequal pupils, rachialgia and herpetic or other eruptions were not observed at any time.

As the case occurred in a district where c. s. fever was prevailing, I abstained from a positive expression of opinion until the lapse of a day or two convinced me that I had to deal with the graver of the two diseases concerning which I had been in doubt. The superadded symptoms which led to this belief were very severe.

Pain of a neuralgic type in the left thorax which followed the course of angina pectoris, mounting to the shoulder and attacking the arm, and also numbness and tingling in the hands and feet, especially those of the left side. Resort was had to ergot, while the pain was, in great measure, controlled by chloral and bromide of potash, to which morphine was added *pro re nata*. A blister was applied to the spine; milk, eggs, and oysters were the chief articles of diet; the appetite, however, being almost wholly in abeyance during the height of the attack. Under this treatment the case progressed favorably; and it is per-

haps noteworthy that if, through negligence, the administration of the ergot was intermitted, there was a speedy exacerbation of the symptoms

In between two and three weeks great improvement was noted, when a double pneumonia abruptly supervened. This was met by stimulants and the use of local appliances, and finally convalescence was established.

No sequelæ have appeared save considerable weakness of the left leg.

Of several children in the family none contracted the disease except the one whose case is reported.

It is proper to state that the attack was immediately preceded by rotheln.

Dr. A. C. Wedge reports two cases. One, a man, aged thirty-eight to forty, was taken sick about February 13th, 1881. First symptoms, a violent head and earache, followed by a chill. Afterward, more intense headache, finally violent convulsions, stupor or coma, and an increased cutaneous sensibility. No eruptions; pain in spine and limbs; spasms, tonic; dilated pupils; no vomiting; constipation. Pulse slow and full. Death occurred on fifth day of disease. The doctor did not see this case till five hours before death. Treatment availed nothing.

Case 2d, boy, aged twelve years. Taken sick March 24th, 1881. Facial expression, anxious; chills in commencement, and headache. Delirium, after a few days, also debility; increased cutaneous sensibility; eruptions; pain in both spine and limbs; tonic spasms; hearing defective; no paralysis. Eyes most always closed; think there was iritis. There was both vomiting and constipation. Duration eighteen days; death. Treatment consisted of bromides most of the time, local or general bleeding, cold, ergot, *veratrune vividi* was not used. Gelsemium, blistering, chloral, belladonna, opium and quinæ was used at various times, all of them with apparent good effect, for a time. Do not consider disease contagious or infectious.

Dr. H. L. Coon has met but one case in the past year, a lady, aged thirty-seven. Was taken sick in last days of March. The case, at that time, seemed to be neuralgic in character, pulse and temperature being normal. Anodynes, however, gave very little relief. In about ten days the head was drawn back and to left side; bowels constipated; chills; headache; vomiting of gall-like secretion. Pain in limbs, followed by perfect paralysis; pupils dilated; spasms, followed by coma and death.

The only treatment that seemed to give any hope was hypodermic use of morphia. Pneumonia was prevailing at the time.

Dr. J. H. Dunn, Shakopee, gives the following report of an epidemic which occurred there during February and March last. Feb. 12th, at 10 A. M., was called to see Mrs. S., Irish, aged sixty years, residing on farm near Shakopee. Was well yesterday morning, went to church, and on her way home felt sick. Although riding, had to stop and rest at a neighbor's. On reaching home, went to bed. Had a chill, severe headache and great pain, which she located particularly in the side, but seemed very bad "all through the body." Pulse 80, temperature 100. She had a peculiar indisposition to tell her symptoms; her answers were reluctant and indefinite.

Not knowing the lady, and not suspecting the disease, I attributed it to moroseness, and was not quite sure whether she was a little deaf or not. Pupils and movements of the eye normal, bowels constipated, vomited when taken sick. Did not make a positive diagnosis, but remember to have had an instinctive feeling of brain trouble. But after noting pupils, and muscles of back and neck, very carefully, suspended judgment, and prescribed bromide-potassa, twenty grains every three hours, and a calomel and jalap purge. February 13th, did not call until 4 P. M. Patient very deaf; only shouts would rouse her from half comatose condition. Friends said she had grown easier after I left, but became more and

more deaf. I now occasionally noticed very slight strabismus, only noticeable by the strictest attention. Blistered back of neck and discontinued further treatment as useless. She died in about two hours, being completely comatose forty-eight hours after first attack.

February 24th, 3 P. M., called to see Wm. S., a jeweler, age twenty, who had been out to a masquerade on night of 22d till 5 A. M. On 23d came home, lay down on floor and slept till after noon. Had headache, concluded not to go down town till next day. Did not sleep well at night, and on 24th pain in head aggravated and extended to spinal region and limbs. Concluded to call doctor. He was now quite deaf, very restless, delirious, pulse 120 to 130; temperature 102. At 6 P. M. heart's action was tumultuous, delirium furious, restless, could hardly be kept in bed. Nothing could be learned of the bowels except there had been no movement since he was confined to bed; no vomiting. He had a peculiar squint of one eye, as if he were applying jeweler's eye-glass, pupils normal. One year ago patient had acute articular rheumatism for six weeks. Three weeks ago had a slight attack in the knee joint, which yielded in three days, under the use of salicytate of soda. I thought I could, on my first visit, make out pericardial friction sound. I diagnosed meningitis, as yet only cerebral, and supposed the rheumatic poison the predisposing, and exposure the exciting cause. I also believed the pericardium affected by the same cause. In no other case has there been such embarrassed heart's action. I ordered twenty grains bromide potassa every three hours, and a drastic cathartic (croton oil.) At midnight, delirium more active, perfectly deaf, pulse more rapid and feeble, slight strasbismus of one eye at times. Called Dr. Manson in consultation, who concurred in diagnosis and treatment. We gave chloral fifteen grains every hour and half, for two or three doses; failing to quiet, I tried morphine one-eighth grain doses. At 10 A. M., on the 25th, was more quiet, at M.

stiffness of muscles of neck, and slight episthotonos was induced, delirium muttering, pupils contracted. At 4 P. M. I called Drs. Munson and Lewis. Patient comatose, pupils dilated. episthotonos complete. Death. No post-mortem.

This is the only case in which the head was retracted, either in adults or children. So far, I regarded these as sporadic cases, due to exposure. But for two or three days there had been great excitement in town, owing to the mysterious sickness of a whole family of children, six in number, viz.: Annie, aged nine; Willie, seven; Aggie, five; Rosa, four; Eddie, two; baby, seven weeks. One had died suddenly, and the others were in a critical condition. Dr. Lord, the family physician, since deceased, asked for counsel. Drs. Lewis and Munson were called.

On the following day, at the request of the family, I saw the children with Dr. Lord, who gave the following history: The children had, for weeks, been eating raw pork. On the 21st, two were taken with vomiting and pains in limbs and muscles. Bowels normal; temperature and pulse about normal. They lay quiet and ate food as usual, if undisturbed, but cried at once if handled or touched.

By the 23d, the oldest child was better and Aggie had died in convulsions, and all the others were taken in the same way, except, perhaps, the baby, which was so young and little observed that I only knew it was sick, with a temperature of 102, restless, crying, and in a few days died. The physicians had suspected trichinosis. February 24th, when I saw them, Eddie, Willie and Rosa lay on their backs in bed. Pulse about normal, temperature in highest case not above 102, (normal in Eddie). They cried whenever touched, especially if head was forcibly and suddenly moved. Rosa's face was puffed about the eyes. Willie's left hand and fore-arm was puffed up so that the fingers could not be closed, and had retention of urine. There was slight photophobia. I regarded the disease as spinal fever. As there was a difference of opinion as to the diagnosis, no active treatment was pur-

sued. Bowels moved with mercurial and a grain of quinine every two to three hours, with hygienic care, was all that was done.

On the afternoon of the 24th, Katie G., one year and ten months old, living in the same house, vomited, felt bad and went to bed, and in less than twenty-four hours died in convulsions.

Here a post mortem was allowed—Drs. Lewis, Lord, Manson, and myself. Drs. Hand and Boardman, of St. Paul, as members of State Board of Health, were telegraphed to investigate the matter, and arrived before the autopsy was completed. Dark or black spots on the outer and posterior surfaces of limbs and back. Membranes of brain were slightly congested, mostly venous; no effusion in arachnoid. Spinal cord not examined. Visceral layer of pericardium congested, and contained an abnormal serous effusion. Part of upper lobe of left lung was congested. Intestines were congested in many spots, both peritoneum and mucous coats, and there was found ten invaginations, easily reducible. Gall bladder distended with bile; kidneys normal. Muscles examined by microscope, and no trichinæ.

All present now visited sick children, and a diagnosis of epidemic cerebro-spinal meningitis returned. On the day following, a post-mortem was had on the other dead child. The autopsy presented almost an identical appearance to that of the day previous. In the course of a week the other children, four in number, all recovered, one being, for a time, deaf. I personally knew of but ten cases occurring in children, of which three died.

April 1st, called to see J. S., German laborer, aged 30. Had taken off his boots and waded a stream of water a few days before. Had terrible pain in head for two days past, also pain in back and limbs. Bowels constipated, and vomited the first day of sickness. Slight deafness; pupils contracted; no strasbismus. Temperature, 101. Gave mercurial cathartic, five gr. Dover's every three hours,

first giving a ten gr. dose, and applied ice cap to head. Sent for me at midnight; could not go; I sent Dr. E., who found slight stiffness of muscles of neck; pupils dilated; suddenly became comatose, and died.

April 4th, called to see J. W., Irish, farm laborer, aged thirty-five. Had had a severe headache for a week, and pain in back of neck and lumbar region. Not much appetite; vomited several times; slight photophobia; bowels constipated. Pulse and temperature about nórmal. Had never before suffered from headache, and this was so persistent and severe as to keep him in bed. I ordered bowels opened with calomel, and prescribed chloral mixture for the headache, which, by blunder of attendants, was given, twelve grains every three hours, for two days, when I dropped it. Headache much improved, and with a little quinine as a tonic, and no further treatment, he recovered in about one week.

Practitioners here have never before met cases of such persistent headache as to prevent the strongest laborers from work from one to three weeks together, with the symptoms above mentioned, and we can only see in them a milder and less acute attack of spinal meningitis. There has been a large number of cases, of which this is typical.

To recapitulate: I have observed this spring about ten well-marked cases of the disease in children, of which four died. Four severe cases in adults, of which three died, and perhaps ten or twelve abortive cases, all of which recovered.

Of symptoms, the most constant and early was: severe headache in the occipital region, often through whole head. Generally pain in spinal region, in limbs and muscles, and in children, hyperæsthesia of the general surface.

In all but two or three cases, there was vomiting early in the disease. Temperature has never been more than 102 deg. Pulse, except in one case, slightly quickened.

In adults, deafness has been noted in all fatal cases. In cases that recovered there has been no eye symptoms,

except very slight photophobia. Strasbismus has come on only late in a few cases, and these fatal. Pupils normal till death approaches. Movements and concussions of spine by forcibly moving the head, caused pain in most cases. Bowels have been normal or constipated. In a child that recovered there was, for one or two days, retention of urine. In two cases, in children, œdema about the eyes; and in two—one a child which recovered, and one a fatal adult case—there was œdema of one arm to the elbow. In the latter, the arm looked purple, showing defective circulation.

The deaths have occurred within four days of the first symptoms. The deaths in children were from convulsions. The adults died comatose.

There was no epidemic prevailing at the time. About two weeks later there was an epidemic of rötheln, and earlier in the year there had been an epidemic of diptheria. Treatment has not seemed of much avail. With me, it has consisted of K. Br. chloral, or opium, and moderate, early purgation with mercurials, with cold to the head and occasionally a blister. My best results came of early opening bowels with calomel, K. Br., to counteract headache, and if it fail, opium and blistering the neck, in adults.

Case I.

A. J. Murdock, M. D., furnishes your committee with the following report of eleven cases:

N. B., female, aged three and a half years, of good constitution, was taken ill December 19th, 1880. Complained of pain in calf of right leg and knees, followed by chill and vomiting of a dark greenish looking matter. Temperature 103, and continued so during her illness; pulse 120; pain in the head, neck and back; complained of great pain when moved, especially in right leg; delirium, constipation, and later, pain in right arm; pupils contracted; no eruption, episthotonos and death on December 31st.

CASE II.

A. C., aged thirteen months, male; was taken ill, February 6th, with vomiting, fever, great restlessness and convulsions. I saw the child one week after the attack. Head was drawn back and to one side; occasional tonic spasms, paralysis of right side, strabismus, constipation, pupils irregular, one dilated the other contracted; fever remittent, conjunctivitis, roseola; death on thirty-second day.

CASE III.

H. N., male, aged two and a half years, of feeble constitution, was taken February 6th, with vomiting and diarrhœa, great restlessness, fever, loss of appetite, headache and a swelling at the angle of jaw on left side, which disappeared in a few days.

On the third day there was tetanic spasms of cervical muscles, and the slightest movement caused him to cry out from pain. Pupils were dilated. Incessant jactitation unless quieted by medicine; incomplete closure of eyelids during sleep, herpes vesicles on lips and chin, erythematous eruption over whole surface during third week. Constipation, frequent attacks of vomiting, great thirst, hearing acute, increased cutaneous sensibility and delirium. Relaxation of cervical and dorsal muscles occurred during fourth week, fever subsided, appetite returned and improvement continued to the middle of sixth week, when he had a convulsion caused by over-eating, and a return of all the bad symptoms; also, strabismus, deafness, loss of sight, frequent spasms and death on the forty-second day.

CASE IV.

P. F., female, age two and one-half years, was taken sick February 17th. In the morning she was sitting on a low chair, eating an apple, and fell over on to the floor.

In the afternoon was taken vomiting, the extremities were cold. She soon became feverish and drowsy, slight thirst, pulse slow, (80). On the following day was more drowsy, could with difficulty be aroused so as to notice anything. There was slight rigidity of cervical muscles, did not seem to suffer any pain, and lay as if asleep, except when she wanted drink. There were well marked remissions in the fever, temperature ranging from 100 to 103. Rigidity of neck increased gradually, respiration irregular. Did not object to taking food or medicine; did not complain, except when moved; there was redness and swelling of right hand, bowels regular. At the end of second week she had a sinking spell, and for a short time was pulseless, and perspired freely. Stimulants were administered and she rallied. After this she was constipated, the left pupil dilated, the right contracted, and about the end of the fourth week the sight was lost entirely, and hearing greatly impaired. During the fifth week, complete relaxation of muscles took place, but she now began to have tonic spasms at intervals varying from a few minutes to several hours, becoming towards the end almost continuous. She died on the fortieth day. What is remarkable in this case was the entire absence of pain, and the long continued stupor, commencing in the beginning of the attack and continuing to the end. She had during the third week an erythematous eruption. The treatment used in this case and the preceding cases was cold applications to head, counter-irritants to the neck and along the spine, ergot, verat verid., bromides, and chloral to allay spasms.

CASE V.

Miss M. aged, 13 years, was taken ill February 18th. Complained of headache, pain in the back, obstinate vomiting. She continued to grow worse, and a physician was called in the following day, but failed to recognize the disease. I was called in consultation, the third day in the

morning. She was then suffering intense pain in head and neck, was tossing about continually, vomiting frequently, temperature 103, pulse 90, tetanic spasms of cervical and dorsal muscles, and pupils contracted. Morphia was given, and wet cups applied to neck, and along spine, and an ice bag applied to head. She expressed herself as feeling relieved after the cupping. She died in the afternoon of the third day.

Case VI.

T. D., female, aged 18 years, was taken ill February 18th. She retired feeling as well as usual; but during the night was taken with a chill, vomiting of a dark greenish matter, and violent headache. I was called in the afternoon of following day. Found her still vomiting, intense pain in head and neck, inability to carry the head forward, pupils contracted, pulse 80, temperature 102, delirium. Wet cups were applied to neck, followed by blisters, morphia and bromide of potassium given sufficient to relieve pain. Herpes vesicles appeared on lips and chin on third day. Chloral was given to produce sleep. She was constipated, On the fourth day, menses appeared, and there was retention of urine. In evening of fifth day she had a clonic spasm and died.

Case VII.

L. H., female, aged 13 years, was taken ill February 3d, with pain in head, chills, vomiting, fever and stiffness of the neck. Wet cups were applied to the neck, followed by blisters, and leeches to the temples. Morphia and bromide of potassium given internally. The pupils were dilated, pulse 100, temperature 102. On the third day the symptoms abated, and she improved rapidly, and in ten days, aside from the debility, was well. In four weeks, the attack was renewed, with more severity than the first, except there was less rigidity of musles of neck,

The same treatment was resorted to as in the first attack, and with equally good results. She is now apparently in good health. At the time of the first attack, her mother had the abortive form of the same disease.

CASE VIII.

E. B., aged forty-seven years, barber by occupation, was at his place of business at noon, on the 26th of April, but feeling badly, he walked home, three-quarters of a mile, and remarked to friends he met on the way, that he was feeling terribly. At 5 A. M. on the following day I was called. I found him tossing about the bed, as he had been during the whole night; grasping his head with both hands during the paroxysm of pain. There was obstinate vomiting, delirium, pupils contracted, pulse 85, unable to answer any questions, head drawn backwards, retention of urine. Wet cups were applied to neck, and morphia and bromide of potassium given, and ice-water applied to head. He became more quiet; stupor steadily increased, and death occurred at 9 P. M. Duration of illness, thirty-six hours. No prodromic stage. Habits intemperate. Two months previous he had both feet frozen, a part of one was amputated.

CASE IX.

G. K., aged three years, female, was taken sick about March 18th, with a chill, vomiting, severe headache, fever, pain in back and limbs. After she had been sick a week she was brought here for treatment, a distance of forty miles, in a sleigh, stopping only once to rest. She stood the journey well and slept better than usual that night. I found her with fever, headache, tonic spasms of cervical muscles; temperature 102, pulse 100; great thirst, restless, constipation, pupils dilated; vomiting occasionally, but could retain medicine very well. I gave bromide

of potassium in full doses, with small doses of morphia, and tinct. aconite to allay fever; applied counter-irritants to neck and spine. The symptoms gradually abated, and at the end of three weeks was able to be about the house, and has fully recovered.

CASE X.

E. K., male, aged five years, was taken ill March 20th, with chills, obstinate vomiting, pain in head and back, stiffness of muscles of neck, constipation and fever Dr. E. T. Arnold had charge of this case. Four weeks after the attack he was brought to this place in a buggy, a distance of forty miles, in order that he might have closer medical attention. I saw the child frequently in consultation. When brought here, there was iritis of right eye, pupil of left dilated, obstinate constipation, which has continued up to this time. Muscles of neck have relaxed. He was greatly emaciated, œdema of feet and one hand; no fever. For four weeks there was no voluntary movement of limbs; has frequent attacks of vomiting, slight twitching of eye-lids, and oscillatory movements of eyes. He is now in the twentieth week, his appetite is good, mind is clouded, is blind in one eye, but seems to be convalescing slowly.

CASE XI.

F. M., male, aged twenty-nine years. After a prolonged spree, complained of headache and pain in jaws, had chilly sensations, hot flashes. and a little stiffness in muscles of neck, and general indisposition. This condition continued for about ten days. When he came under my care, May 16th, was able to be about the house and read the newspapers. Had some fever of remitting type, pulse 80, some appetite. I ordered counter-irritants to neck and spine, and cold applied to head. Gave aconite, quinine and Dover's powder. During the three days fol-

lowing, the chills ceased, pain in jaws diminished, but he became more restless. On third day there was retention of urine, and at 9 P. M. he was seized with tetanic spasms of cervical and dorsal muscles, eyes wide open, pupils contracted, became unconscious, did not speak after spasm occurred, and died in thirty-six hours. This case differed from all the others in the long prodromic stage.

After the outburst of this disease here (Taylor's Falls), there was fully twice as many abortive cases as of those that were fully developed. It will be observed that five of the above cases occurred in one week, in February. The symptoms in children did not differ materially from adults, except that in adults the disease run a more rapid and violent course. In nearly all the cases there were no prodromic symptoms. No other diseases prevailed at the time.

Dr. D. W. Hand writes, that during the year he has seen about thirty-two cases of cerebro-spinal meningitis, of these, thirteen died. Only one case was in an adult. Ten abortive cases occurred during that period. Symptoms: The facial expression was that of pain; headache always, sometimes a chill, and generally a profuse vomiting, delirium general, and debility marked from the beginning. Hyperœsthesia of skin very often, with wandering pains in joints and muscles, spasm usually of tonic character, pupils dilated, rarely strabismus, but often a severe conjunctivitis or cornitis. In several cases he saw sloughing of the cornea come on rapidly. Hearing generally defective, but in some cases very acute, constipation the rule. Disease lasting from six days to seven or eight weeks; relapses not common. Treatment, calomel cathartic, followed by bromide of potassaium, and morphia. Cold did no good that he could see; neither did ergot or chloral. Small blisters to back of neck and spine were beneficial.

The chairman of your committee has met five cases of

this disease during the year; four cases were in children and one was in an adult.

One case, sporadic, occurred in August. Six in February.

August 15th, P. M. E. G., aged about twelve years, was taken with chill, followed by fever and vomiting. On the morning of the 16th I saw him. He was still vomiting a green watery fluid. Pulse 130, temperature 104; pupil normal, but a haggard expression to the eye. His step unsteady, and motions uncertain, and the mind was clouded; complained of no pain but desired to be let alone. Gave calomel and compound extract of colocynth to act on bowels, and aconite to subdue fever; cold applications to head and counter-irritants to back. During the day the head began to draw back, and he would complain of pain in head when roused. A slight forced movement of head caused him to cry, which must be heard to be understood—it was the peculiar shriek of c. s. fever. He was becoming more restless. Continued the aconite and ordered full doses of bromide potassium, and ice bag to head.

August 17th, no great change in symptoms. Gave Tr. varat. veride and morphia in place of aconite, and continued the bromide; also gave ergot, ten drops of Tilden's fluid extract every two hours. This treatment was continued for about four days when the disease began to yield. On fourth day Dr. D. W. Hand was called, who concurred in diagnosis and treatment. The child was convalescent in twelve days. As the fever subsided, the varat. veri. was discontinued, but the ergot, bromide, ice bag and counter-irritation or blister was continued to the end. In November his parents moved west, where, in February, E. G. had the second attack and after many weeks died.

February 10, was called to see Master E., aged eight years. He had been under the care of a homeopathist, who had treated him for bilious fever, rheumatism and heart disease. The mother informed me that he was taken

ill with a chill followed with pain in head and vomiting, high fever, and complained of pain in limbs when moved; constipated, had had but one slight movement since taken sick; had had convulsions for two days. I found him delirious, head drawn back and to left side; pupils dilated fully. The left arm and limb palsied. He was restless; pulse small and frequent. Treatment availed nothing; he died the third day.

K. H., female, aged four years; of good constitution; was taken ill February 14th, with pain just above left patella, followed by chill, vomiting, pain in head, and fever. I was called on the morning of 15th. Found her delirious, pulse 140, temperature 104, skin hot and covered with a roseola eruption, and very sensitive. Pupil contracted, conjunctiva congested, eyes suffused, and head retracted; bowels constipated. Gave calomel, a full dose; ordered cold to head and small blister back of neck, bromide potassium, in full dose, every two hours, and perfect quiet, as the slightest noise gave great pain.

Sixteenth, A. M., bowels had moved; temperature 103, pulse 130; delirious, contraction of cervical muscles had increased; fever remittant. She was very restless during remission. Congestion of eye increased. The same train of symptoms continued for one week, when fever subsided and she became more quiet; tongue cleaned and appetite returned in part. The eyes still remained inflamed, cornea ulcerated; muscles of the neck relaxed; pupils dilated. During the second week she became more comatose, and died on the fifteenth day. Quinine, belladonna, ergot and calabar bean were all given in addition to those above mentioned. The only one which seemed to benefit was the calabar bean. That acted like a charm in quieting and relaxing the tetanic action of the muscles.

C. M., female, aged four years, was taken sick February 25th, with a chill, followed by vomiting and fever. I was called on the 26th at 9 P. M.; found her in clonic convulsions. Episthotonos, pulse very frequent, temperature

104½. Strabismus, bowels constipated; movements of limbs gave pain. Ordered counter-irritation to spine and gave a mixture of bromide potassium and chloral, and a mercurial cathartic. She soon became comatose, and died in five hours after I first saw her.

The symptoms of the case in the adult was very similar to those narrated above. The disease yielded to treatment in three weeks time, and has fully recovered.

It is the opinion of those who have aided in this report that the disease is not contagious, but in a degree infectious. The sanitary condition of the cases reported has generally been poor. Small, illy-ventilated rooms, improper food, undue exposure or intemperance.

The epidemic in almost every instance reported had been preceded or followed by an epedimic of rötheln.

Of the seventy cases reported, there were forty-seven fatal.

Nearly every case occurred in February and March, showing that the disease prevailed epidemically in different localities, and at great distances in the State, at the same time, and at the termination of a long and very severe winter, St. Paul, Taylor's Falls and Shakopee being the centers.

It would be interesting to know if the rival city, Minneapolis, suffered equally with St. Paul, but the committee received no report from Minneapolis.

All of which is most respectfully submitted.

L. P. DODGE,
Chairman.

SUMMER BOWEL DISEASES OF CHILDREN.

In attempting to account for diseases more prevalent, or only prevalent during certain seasons of the year, it is self-evident that the cause or causes must be sought for in some meteorological condition, occurring at such season,

that does not prevail at other seasons, which condition may change or modify local surroundings, so as to cause several co-operating circumstances to combine to produce any given disease, general in its operations on all classes, or confined to a single class, viz.: Infants, adolescents, young adults, middle-aged, or old persons.

In the case under discussion, we have only to attempt to account for the bowel diseases of young children, during the prevalence of the heated months. In this case, we have *one single factor*, that is absent at all other seasons of the year, and that factor is *solar heat*, and it is not at all necessary to look for other *primary* causes for the development of the summer bowel diseases of children. Whatever the form or nature of the disease, or whatever portion of the alimentary canal may be affected, the ultimate cause is the same. Of course, we allude only to the diseases of young children, for at a later period of life, diarrhœas and dysenteries may prevail at other seasons. Taking for granted that solar heat is the ultimate cause of the prevalence of summer bowel diseases amongst young children, it may interest us to inquire in what way it acts to produce such an effect, and why it should affect young children more than older ones. There must be something in the physical condition of the young child, that is less operative at a more advanced period of life, or else, has been overcome or modified by changed physiological conditions as the new being advances along the life-way. When a child is born it is to a large extent a mere brainless animal, an embryo of the future perfect creature, after the cerebro-spinal. system of innervation has been perfectly destroyed. At first, and during the earlier months of its existence, its functions are mostly those of animal life, carried on by the animal or ganglionic system of nerves, and as its chief business is to grow and develop into a mature animal, the nutritive functions are mainly active to produce this result. Consequently, digestion of proper food, and its assimilation, together

with a healthful supply of oxygen through the functions of respiration, are the main factors in the growth of the new creature, while exhalation and excretion of worn out debris—the ashes from the vital fire that consumes the tissues—form secondary, but no less important parts in maintaining the balance of forces that propel the life machinery to more perfect development. All these vital forces have their origin in, and are regulated and distributed by the inherent originating power, and securing direction of that most wonderful self-regulating ganglionic system, deeply buried amongst the darkest and most hidden recesses of the body. The great centers of the ganglionic system are mostly found in near proximity to the great organs of nutrition, including the circulatory and respiratory organs. Evidently, one reason for this is to the end, that they may be protected from the ordinary dangers incident to the body from extremes of temperature, and a thousand exposures to violence or mechanical injury from without. The brain will bear immense shocks from violence, lie dormant for days or weeks, and recover; but a sudden shock or violent blow to the solar plexis is surely followed by speedy death from asphyxia, or paralysis of the heart.

Seeing then, that the life and growth of the young animal is almost solely dependent upon a healthy condition of the system of animal nerves, and any disease of, or debilitating cause, operating upon the centers of that system, must necessarily be followed by faulty nutrition, and the ingested food, or inspired air being imperfectly assimilated, becomes poisonous, instead of a nutrient substance, in the organs, and as such are violently ejected in the form of unhealthy excretions, or unassimilated air. Just here it may be proper to explain what is meant by "violent ejection of unassimilated air." Every one having ordinary powers of observation, who has had large clinical experience in the summer bowel diseases of children, must have noticed in quite a number of cases of "cholera

infantum," and its congenerous conditions of the alimentary canal, a hurried respiration, accompanied by a dark tinge of skin, and purplish nails and lips, showing too surely, that from some cause, the inspired air has not parted with its proper quota of oxygen, and the carbon remains in undue portion in the blood, showing that the air inspired has not been assimilated; that is, the blood has not parted with its carbon to the air, and has not taken up its dose of oxygen, and the air is hurriedly returned from the lungs, in order that, if possible, the starving blood may acquire by rapid transmission of air through the lungs, what it fails to obtain in the normal respiration.

Now as to the precise manner in which solar heat, direct or radiated, disastrously affects the ganglionic centers, there is ample room for widely differing hypotheses.

It is very probable, that what sunstroke is to the cerebro-spinal system of the adult, it is to the ganglionic centers of the animal system of nerves in the infant. It is not at all necessary to the production of sun, or heat stroke, that the victim should receive the direct rays of the sun, for some of the most dangerous cases of sunstroke occur in the shade, and sometimes after the sun has gone down. In these cases it is the radiated heat that does the harm. The earth and the walls of buildings have, all through the day, absorbed the sun's heat-rays, and at night they are radiated into the atmosphere; and animal bodies exposed to this radiated heat may, in the case of adults, succumb to cerebral stroke, and in the very young, the great ganglia of the sympathetic may be paralysed by heat-stroke, or so far debilitated as to result in an imperfect, or vicious, or insane, discharge of functions, resulting in deranged digestion and nutrition, the products of which in their turn irritate the digestive surfaces of the alimentary canal, and by reflex action upon the ganglionic centers, provoke them to urge the viscera to throw off the irritating objects, whether they be undigested food, or acrid secretions.

Hence, vomitings and purgings are the rational symptoms of faulty ganglionic innervation in summer time.

Indigestion, in all its protean forms, may be attributed to faulty ganglionic innervation, resulting in too scanty secretion of the digestive solvents, or in a loss of proportion of the several chemical agents concurring to produce healthy digestion. It is most certainly true, that without a lesion or functional derangement of the ganglionic centers, there can be no serious disorder of digestion and alimentation, or any other of the involuntary processes of animal life.

If then the summer bowel diseases of young children depend upon a crippled ganglionic innervation, we may safely assume that our efforts at relief should be directed to the source of the evil, and the exciting causes should be, as far as possible, rendered inoperative.

We have been in the habit of addressing our remedies almost exclusively to the alimentary surfaces, independently of any secondary or reflex action they might have on ganglionic innervation, and the general results have not been at all satisfactory. If we are correct in our postulate that *solar heat* is the ultimate cause of the summer bowel diseases of young children, we would expect to find a corresponding increase in the animal heat of the body of the sufferer, and that is just what we do find; the thermometer marking a high average range in the earlier stages of all these "summer complaints" of young children, and sometimes, as in many cases of cholera infantum, the temperature remaining high till death closes up the case.

Let us for a moment show the parallelism between the two systems of nerves in the body, so far as disease or injury modifies their action. If disease or injury affect any portion of the cerebro-spinal system, we have either loss of sense and motion of the parts supplied with nerve force by that particular portion of the brain or spinal marrows, or we have exalted nerve perception, as in pain,

or we have irregular motion in convulsive movements of the parts obtaining nerve force from the portion affected by disease or injury, or we have abnormal mental manifestations, as in the various forms of insomnia: delirium, mania, and insanity. In short, the functions of mind, feeling and motion constitute the entire realm over which the cerebro-spinal system reigns, while all the remainder of vital operations are carried on by the ganglionic or purely animal system of nerves, and it is only when disease or injury invades the ganglionic system, and results of such invasion affect the integrity of cerebro-spinal nerves in their distribution upon or within organs suffering from faulty ganglionic innervation, that we have the phenomena of pain and imperfect motion manifesting themselves, showing that the cerebro-spinal system sounds the alarm of threatened danger to the whole economy.

We are entirely too prone to follow the lead of the old school men in our profession, who looked upon all diseases as *entities*, each of which must have a "local habitation and a name," and be treated "*secundem artem*" according to the dogmas of certain self-appointed authorities. Hence, we have not a disease diagnosed and named, and the remedies enumerated "*ex cathedra*," and our libraries and the professional journals are filled with the copied errors of past dogmatists, or the crude lucubrations of earnest but impatient men who attempt to particularize before they have thoroughly learned to generalize. There are few maladies that do not involve the whole economy, and range widely over the whole field of physiologico-pathology, and the true medical scientist, looks over the whole ground subject to invasion, sees the present status of the whole microcosm, foresees future invasions and complications, and possible termination; and leaving the name of the disease out of the calculation, except as a convenient classification, he seizes the salient points, and uses the best means at hand to meet the indi-

cations. In other words, he treats a *condition*, and not a name. He inquires concerning the state of his patient by questioning the organs for organic change, and scans the horizon of the functions for evidence of hidden danger, and acts like a skillful general in marshaling his means to an intelligent end, while the copyist and imitator go the tread-mill round of cures for names.

The first indication in treatment would seem to be, to lessen the animal heat, as we do in sunstroke, and at the same time secure the free access to the lungs of a pure cool atmosphere. In cities many of the victims of "summer complaints" are the children of the poor, who live in poorly ventilated apartments, where quite a number of persons sleep, or toss through the summer nights, in a close room, and the air becomes vitiated by frequent uses, without an adequate supply of fresh air to take the place of that respired. In these cases, the original cause is intensified by local surroundings, and habits of personal uncleanliness. The skin is the great summer filter of the animal body, and when permitted to become filthy, it loses its sieve-like character, and its closed interstices retain the sewage that should escape through them, but remains to poison the blood, or attempts to escape by the alimentary surfaces in the form of a fœtid and putrid discharge, that excoriates the parts over which it passes, as if touched by an acrid acid. Next, after reducing the animal heat, and securing good pure air, the indication would seem to be to introduce into the system such remedies as most nearly act specially on the ganglionic system of nerves.

Little as we know really concerning the action of remedies, there are a few empirical facts that emphasise themselves through all the changes of the therapeutic mind. These facts have been observed by many men, through many years, and under widely varying circumstances. One of these is that quinine, or its equivalent in other salts of cinchona, reduces animal heat in a very marked

degree, but unfortunately, the poor little wretches who wilt under the scorchings of their torment, are unable to receive it into and retain it in their stomachs, in sufficient quantities to induce its antipyretic uses, and, as we have in water and ice applied over the spine and scrobiculus cordis a remedy at once simple and accessible, we may less regret our inability to avail ourselves of quinine. But, aside from reducing the heat, we must endeavor to rouse up the heat-smitten ganglia, after cooling down the body heat, and cause them to resume their wonted functions. It is all in vain to attempt to relieve pain and lessen the excreta, or counteract their acidity or acridity, if we do not address our therapia to the ganglionic centers themselves. Here, at the source of nutrient innervation, lies the prolific cause of all the mischief, unless we take the view of those who believe that the "summer bowel complaints" of children are merely local diseases of the alimentary surfaces, assuming that those surfaces themselves do not owe their innervation to the ganglionic system, or, very inconsistently ignoring its influence in maintaining their physiological integrity and directing their functions, we must admit the philosophical inference that our efforts at relief should be addressed to the source of organic life, seated in the great sympathetic or ganglionic system.

Leaving out of the question the employment of tonic and catalytic agents, of whose *mode* of action we know nothing, we shall take two agents that do not properly belong to either class, and of whose modes we know just as little, but both of which act in some manner not understood, but not the less palpable in effect on the ganglionic centres. Allusion is made to ergotin and emetin. These substances are found in several vegetable productions, but notably in the ergots and ipecacuanha. The former has long been justly placed at the head of the list of agents that act specially upon the uterus in parturition, but it is only of late years that it has become one of the most re-

liable of known agents in producing contractions of the walls of the blood vessels, and of all unstriped muscular tissue, wherever found; and as the walls of the alimentary canal are, as to their motive apparatus, composed almost entirely of unstriped muscular tissue, it follows *a priori* that it must exercise a controlling influence upon all fluxes of that canal, so far as they depend upon increased peristalsis. Many cases of apparently incurable diarrhœa yield readily to hypodermic injections of ergotin, or its administration by the stomach. But, not only does the agent act upon the muscular coat of the alimentary canal, but also upon the secretions and excretions of its glandular and follicular structures, and any agent that controls or modifies the vermicular motion, and the secretions and excretions of the alimentary canal, must necessarily exercise a potent influence upon diseases in which these functions form a common factor of the phenomena of abnormal action, accompanied by profuse fluxes of unhealthy fluids, or half digested food.

During the last five years I have relied with much confidence upon hyperdomic injections of ergotin in cases of cholera infantum and the debilitating diarrhœas of young children during the prevalence of summer heats. I have also found reason to rely much upon minute doses of ipecacuanha very frequently repeated. We know that emetin, as found in ipecacuanha, exercises a potential influence, in large doses, over acute dysentery, so much so indeed that since my earliest recollection I have known the native or wild ipecacuanha, as flux weed, so called by country people who have long used it, as a sure cure for bloody flux. We also know especially that ipecacuanha exercises a peculiar influence upon the mucous glands and follicles of both the alimentary and respiratory organs, and it also acts upon unstriped muscular tissue much after the manner of ergot. In doing this it can only act by modifying in some manner the innervation of animal life through the ganglionic centers. But while we address our attention

to the ganglionic centers as the source of both healthy and unhealthy alimentation, we must not omit the more obvious treatment of existing conditions. Acid secretions must be corrected by alkaline drinks, or the administration of muriatic and lactic acids, to prevent the formation of acetic acid resulting from the fermentation of glucose in the canal. We must furnish food of a kind that will be digested with least possible trouble to the crippled organs, and we must administer pepsin, and its most reliable form is wine of rennet. The system must be kept cool, even below the normal temperature, and there must be free access to pure air. Great and permanent advantage is sometimes obtained from sending the patient for a daily ride into the country, or residence there if the patient be of the city. In some of the apparently most hopeless cases, *perturbation* by rough ridings or tossings, or cold dashes of water, seems to rouse up, or surprise the animal innervation from the lethargic depths of depression incident to all diseases of the bowels in young children, and, late in the disease the alcohol pack suffices to rouse the dormant vitality, and the patient is saved at the eleventh hour.

Very frequently, indeed, where the stomach and bowels promptly reject every thing in the shape of medicine or food, it is a good practice to stop giving them, and give small portions of cool gum water to allay thirst and by and by minute portions of milk and lime-water, or a weak solution of Nestle's milk food, one of the very best of all nutritive substances in the summer diseases of young children. But the great danger in the treatment of the summer complaints of young children consists in the *nimia diligentia*, the too great anxiety to *compel* the disease to yield, taking the view that it is an *entity*, an enemy to be attacked "*vi et armis*" and "driven out" of the body as one would "cast out a devil." Disease is perverted life force, and the physicians calling is to try and direct the vital forces back into their natural and normal current, and to this end he must use natural agents, first—pure air

and equitable temperature; with strict attention to the condition of the skin, which is but a continuation of the mucous surfaces of the alimentary and respiratory organs, changing the mucous for a dermoid covering; and impressions made upon the skin, or an acceleration or retardation of its eliminative or absorbing functions, will, from *continuity of surface*, or class innervation, exercise a potent influence for good or evil.

MATERIA MEDICA.

JAS. DAVENPORT, M. D., ST. PAUL, CHAIRMAN.

Gentlemen of the State Medical Society:

As Chairman of your Committee on Materia Medica, I beg leave to tender our report, with regrets that more of value has not been obtained for your consideration. In response to a circular sent to all the members of this Society, during the winter, but few reports have been received. Especial attention of the fraternity was requested toward "new remedies" with, however, no intention that the gentlemen should confine themselves to the productions of a western manufacturing drug establishment.

The last few years have been rich with the offerings to the medical profession, of new therapeutical measures and agents, and our journals have been filled with suggestions and advice in this important field of medical knowledge. Your committee desire to call your attention to the suggestions of Dr. C. W. Hewitt, believing with the Dr. that much good therapeutical knowledge might be gained by the measures which he suggests. I cannot do better than quote the words of an English physician, Dr. Sawyer, who says: "We are most of us busy men, engaged in the daily treatment of common and ordinary diseases; if we told each other a little oftener what we do for our patients, and what is our judgment about any new drug which we may have tried, we should learn much from each other that would help us."

RED WING, MINN., June 15, 1881.

DR. JAMES DAVENPORT,
Chairman Committee on Materia Medica.

DEAR DOCTOR: Of new remedies I have tried *coca erythoxylon*, *eucalyptus globulus*, *cascara sagrado*, and *stigmata of maize*, all in fluid extract, combined and uncombined with other drugs.

Coca has given satisfaction in collapse, after loss of blood or shock, and as an adjuvant to other tonics.

Eucalyptus has seemed to serve a good purpose as stimulant to diseased mucous surfaces of lungs and stomach. In phthisis pulmonalis there was diminution of purulent expectoration and of cough, with relief of dyspnœa. This is my observation and patient's report.

Cascara Sagrado has served very often as gentle laxative in constipation. A few times, its operation has been attended with pain in bowels and nausea. Its dose must be increased with constant use. It is better to combine it with aromatics.

Stigmata of Maize, promptly diuretic, even in advanced albumenuria, one of the best vegetable diuretics. Have used *Rhus Aromatica* fluid extract in incontinence of urine of children, with success.

May I suggest through you to the Society, the necessity for some system of testing the great variety of new drugs, which have a claim for trial. Many of them are valuable, many of no value. Appoint a committee of men who will volunteer to test and report certain specified drugs of a given manufacturer, for one year. If you will be chairman, count on me as one, to test rhus aromatica, when opportunity occurs, for one year, and report. Let others select their drug and engage in the same thing. Good will come of the experiment, if you can get *volunteers* to promise *now* and work for a year. I see no better way.

Yours,

CHARLES N. NEWELL.

ALCOHOL AS A THERAPEUTIC AGENT.

BY DANIEL LEASURE, M. D., OF ST. PAUL.

There is no article of the materia medica that has passed through such an ordeal test as alcohol, and there is not one that has met with such various fortune as a health restorer. Aside from its being a common menstruum for articles innumerable, on its own merits as a remedial agent, it has no mean pretentions. Up till within a comparatively late period, it was considered as a pure stimulant; and before the days of the clinical thermometer, it was believed that in addition to its stimulating effects upon the circulation, it increased the general temperature of the blood. The crucial test of the thermometer, however, settled the point, that instead of increasing the temperature, it actually diminished it. But, long before the thermometrical proof was adduced, many members of the profession had educated and experimented themselves into a very practical appreciation of its antipyretic value. A brief epitome of my own early experience, will illustrate how, in these days, we felt our way out of the trammels of our lopsided training.

My preceptor was an Edinburg man, in the times of the Gregories, and Monroes, and also a private pupil of Professor James Hamilton, of the University of Edinburg, best known to the profession, half a century since, as "Purgative Hamilton," and was a most uncompromising advocate of the antiphlogistic treatment of fevers, inflammations, and every form of acute disease.

Under his precepts, I early learned to trust to the lancet, wet cups, tartrate of antimony, James' powder, and the very lowest and most innutricious diet possible. I was

taught that all forms of stimulants were dangerous in acute diseases, and in fevers, and surgical cases, and that disease was an enemy to be bled, nauseated and starved out.

When I went to college to *finish* (save the mark) my professional education, the teachings of Chapman, Dewees, Meigs, Hodge, Jackson, Dunglison, and others of the purely antiphlogistic school, confirmed my preceptor's teachings, and I entered upon the practice of the profession, profoundly impressed with the idea, that I understood all about it. At that time, and even since, I have *occasionally* met young gentlemen, fresh from the mills, who have been equally profoundly impressed with a similar idea. But I have long since learned, that a true professional education consists, more in *unlearning* the theories of the giants of the profession, than in endeavoring to verify their truth in practice at the bedside. Little by little, I lost confidence in the theories in which I had so implicitly trusted, and the fatality attending the regular practice in low forms of fever, rheumatism, erysipelas and pneumonia, warned me that I must free myself from the trammels of early teachings, and seek success in the field of rational clinical observation, even at the risk of being charged with "empiricism," at that time a term of withering reproach, suggesting ideas of Paraselsus and Perkins.

During this period in my professional doubting, there approached us from the south-west, whence came all our great epidemics, a low form of remittent fever, attended by great prostration of nerve force, with delirium and extreme emaciation, and, as I learned by report, in advance of its arrival amongst us, great mortality. Of course, when it reached the scene of my labors, the first cases fell into the hands of the older and more experienced doctors, and it was not until after numerous fatal terminations of the disease treated *secundem artem* that any cases were allotted to me.

My first case was one abandoned by the attending

physician, and his counsel, as in *articulo mortis*. The patient, a rather slightly formed, delicate woman, had been bled *ad deliquiem*, in the onset of the attack; had taken an emetic of tartarized antimony, which in its turn, had been followed by ten grains of calomel, and ten of jalap, which were worked off by an infusion of senna and epsom salts. No improvement having taken place, the bleeding was repeated, and a large blister put over the abdominal region, with a solution of tartar emetic, to be given constantly, *ad nauseum*, which, in spite of science to the contrary, made the patient worse; or to put it in the milder words of the attending physician, the disease refused to yield, and the patient was abandoned to the consolations of sympathizing friends, and the efficacy of prayer. A little sister of the dying woman refused to submit to the decrees, and to please her, I was called in. Fully impressed with the belief that the woman was dying, and seeing the friends still hoped against hope, I thought I might as well experiment a little, in a *new direction*. I stayed at the bedside, and administered half a tablespoonful of brandy (we had brandy in those days) in a little hot sweetened water, every half hour, until after having given in this way over half a pint of brandy, the patient ceased her mutterings and struggles, and sunk into a profound sleep, which lasted four hours, and awoke *rational*, for the first time in many days. Brandy and mutton soup were given carefully, and in a few days the patient was convalescent. But, after all, the result was not satisfactory to all parties. The doctors declared that her recovery was a last effort of nature, and the minister was finally persuaded that the importunities at the throne of grace had invoked the Divine aid *in extremis*. Nor was I myself satisfied that the early treatment had not been correct, and that at any other or earlier period of the disease, the brandy might not have been injurious. The charm of pure routine, misnamed science, was, however, broken.

Soon afterwards I had a very severe case in a large, robust farmer. This case I had *ab initio*. I omitted all the *expelling* treatment, as well as the depletory, and relied on brandy and quinine, with animal broths and milk. What, at that time, fairly astounded me, was that when the patient was furiously delirious, an ounce of brandy every half hour was *calmative*, and that while the delirium subsided, the action of the heart was also reduced, the pulse falling from one hundred and twenty to below ninety. We had no clinical thermometers in those days.

All this was so contrary to the then prevailing teachings of the profession, that I feared that my patient was getting well in spite of the disease and my unskilfullness. Case now followed case, and though in the outset I sometimes gave an aperient, by way of "clearing the deck for action," in the main, I adhered steadily to brandy and quinine, and, at the conclusion of the epidemic, I had the satisfaction of knowing that my presence in the community called up no memory of "departed friends," and my elder professional brethren greeted me kindly, as a rather rash, but upon the whole, "rising young man."

About this time (1842) I began to think it would be a good thing to subscribe for a medical journal, (doctors in my vicinity did not think journals necessary,) and I then found that here and there over the country, particularly in the West, there were numerous innovators in the profession, who, rather timidly, it is true, advocated stimulants in certain forms of fevers, from the very inception of the disease. Long previously there were many standing high in the profession, who advocated the use of stimulants in the latter stages of fever, when they were considered a *supporting* remedy.

I have spoken thus at length, and possibly, somewhat egotistically, concerning the steps by which I overcame my early antiphlogistic teachings, but those who commenced the practice about the same time I did, and in a

country practice, will readily recognize the various steps towards their own emancipation.

My next lesson came in the form of a malignant dysentery, where, in conjunction with opium and ipecacuanha, I used port wine and brandy from the earliest onslaught of the disease, with most gratifying results. We had no clinical thermometers in those days.

There happened to me in 1847, some cases of severe inflammatory rheumatism, accompanied by extreme pain, which opium would not relieve, together with great early prostration. These I was worrying myself over, never thinking that a *stimulant* could be admissible in an inflammatory rheumatism, until a rather ludicrous occurrence upset both my opinion of the disease and my practice. One of my worst patients, a sort of harum-scarum fellow, had a friend to watch with him over night. The friend was fond of brandy, and brought a pint flask full in his pocket, *to keep him awake*, which it failed to do; and as he sat at the bedside near the well arm of the patient, he fell asleep, and after a long time he woke up, and proceeding to take another "eye-opener," to his dismay he found his bottle in the hand of the patient completely empty, and the latter sleeping as sweetly as an infant; a thing he had not done for a week.

I was sent for at once, (living near by), and found the pulse, which had not ranged under one hundred and forty, below ninety, and the patient still sleeping. He slept six hours, and woke up free from pain or delirium; and stated that he distinctly remembered seeing his friend take a sip out of the flask, and return it to his pocket, and soon after he fell asleep. Delirious though he was, it occurred to him that he would take out the flask, and drink up the contents, just as "a good joke on Jim." He said he took several drinks, and felt better, and then, feeling sleepy, he gave it the *coup de grace*, and drank it all up. He remembered nothing more till he woke up at the end of his six hours nap. From that hour he convalesced. I

now placed my other patients on half ounce doses of brandy every hour till it relieved pain, and produced sleep, and all went rapidly through their convalescence. I call attention to this, not for the purpose of advocating the use of alcohol indiscriminately in the treatment of inflammatory rheumatism, in the light of our present knowledge of that disease, but to illustrate how, by the merest freak of a delirious patient, I obtained the clue to the treatment of that form of rheumatism where there is great cardiac distress, with tendency to deposit about the valves of that organ, for, in all the cases mentioned, there was distressing heart complication. I may refer to this again if time permit.

But there was *one disease* so purely and truly inflammatory, according to the pathology of the day, that surely *it*, at least, could afford no indication for alcoholic treatment. I refer to erysipelas, sporadic, epidemic and traumatic. Up till the year 1856, I treated many cases of severe erysipelas, and with a most truly astonishing want of success. I tried to put out the St. Anthony's fire, in all sorts of anti-phlogistic ways, but it would not go out till the patient went along. Washes, and paintings, and poultices were of no use. Chalking its outer boundaries with a cordon of nitrate of silver afforded no obstacle to its progress, or if it did, the constitutional complications became only the more grave.

In 1856, there came amongst us the great epidemic of malignant erysipelas, erysipelatous fever, or black tongue, by which appellations it was variously named. My first case, a most estimable young lady, died. While attending her and others I attended some cases of obstetrics, three in number; all the women died in less than forty-eight hours, from puerperal fever, and their babes all died of true erysipelas a few days later. Of course I attended no more lying-in women for a year. After the death of my first patient I abandoned all local and depleting treatment, and gave teaspoonful doses of muriated tincture of

iron, saturated with quinine, every four to six hours, and ounce doses of brandy every two to four hours, with port wine for an *ordinary drink*, and as much beef tea as the patient would take. This was the sole treatment from the very incipiency of the disease. I had no more deaths amongst my sixty odd patients, though the disease lingered on amongst us during several months, and there were numerous deaths. With this epidemic, erysipelas, passed away my last lingering belief in the theory that fever and inflammation were evidences of *exalted vitality*, to be overcome by depressents of the vital powers.

All this may seem foreign to the titled subject of this paper, for at this day there are very few pathologists and therapeutists who would not view the theories of half a century ago as the mere fictions of active but uncertain minds, but to those of us who have lived through the transition period, between the days of dogmatic theory and our present conservative empiricism, the various halts and marches on the way to a purely professional freedom from dogma; to trust in science and art in its application to the healing of the sick, cannot be without, at least, a retrospective interest.

In further speaking of alcohol in disease, I shall use it as a generic term, representing all the fermented, vinous and distilled liquors. According to a general received opinion amongst physiologists, starchy food is converted into grape sugar, and saccharine matter is mainly converted into alcohol, and as such, is one of the components of the pabulum from which the blood and tissues are built up. If this be true, then alcohol is present in the blood and tissues independently of its introduction in the form of fermented, vinous or spirituous drinks. Forming a constituent of the pabulum, or food of the blood and tissues, it must have its uses in the vital economy of the body, and, when in a state of health, where the balances of forces are all even, any excess of it introduced artificially into the system, proves a poison; but, in a state of

lost balances, may, when artificially introduced, rescue the living microcosm from decay, or rapid conflagration. *How* it does this, in our present state of knowledge, is only matter of conjecture or hypothesis. That it *does* it, is known of all men. Theoretical speculation is not always profitable, but it is just and laudable for men, in pursuit of the secrets of nature, to endeavor to account for nature's phenomena, not by special pleading, but by a careful endeavor to reconcile known forces, that, being different in physical attributes, still combine to produce uniform results.

This is preeminently an era of hypotheses in science, and some of these bearing upon the forces that result in life, are exceedingly ingenious.

Limits forbid the entrance upon the discussion of more than *one* of these in relation to our subject, and I shall take up one of the *newest*, hoping that if nothing new or startling is devolped, it may, at least, contribute to entertainment and food for thought. The hypothesis will be stated as briefly as possible to be this: In the living animal, the whole framework and superstructure of the body, are suspended, or floating, if you please, in a miniature ocean of blood, whose tides are limited on all sides by an enclosing shore of membrane, itself impervious to it, but still nourished by it.

The blood, containing in solution all the elementary constituents of the tissues, everywhere permeates them; carrying with it the pabulum on which they feed, and receives in return all the debris of destructive metamorphosis, which is separated from the general current by appropriate organs, and thrown out in the form of vapor and water, holding suspended in it, or in a state of solution, various crystalized or amorphous solids, and shed epithelium. Thus far nothing new. But now comes in the hypothesis of "living plasma," variously called protoplasm, bioplasm, and other learned or fanciful defining terms. This living plasma is described as being found in

the germ cells and intracellular tissue, and notably in the *white corpuscles* of the blood. The "living plasma" receives its nourishment from the results of digestion and assimilation of food, constituting a pabulum or food of the blood, which, though not capable of life itself, is appropriated by the living plasma, which, in its turn, under a vital impulse, builds up the various tissues of the body by originating cells which have the power of reproducing themselves, each after its kind, which, under the term of germ cells, builds up the tissues. These cells, in health, have each its proper shell, or cell-wall, through minute openings or trimmings, of which shell or envelope vital plasma exudes to form new cells *ad infinitum*.

But, if from any cause the natural and healthy formation of living plasma is interfered with, cell life may be depressed below the formative plane, or exalted above it. In all cases, while life lasts, the formation of living plasma goes on; but in disease, the plasma is degraded, and ceases to build up normal tissue, or builds up new unhealthy tissues, in the substance of, or upon the natural tissues, or in the intratissuelar spaces. In all cases of disease, accompanied by inflammation, or tumefaction, where the parts are either impacted or swollen, there is a development of degraded living plasma, which consumes the pabulum proper of the blood, or contaminates it, rendering it unfit for the nutrition of normal plasma, constituting the various forms of fever that follows local injuries or inflammations. The germ cells formed from degraded living plasma, sometimes grow with astonishing rapidity, constituting in some cases rapid swelling of parts as in rheumatism, erysipelas and so forth, or the tumefaction which results from traumatic causes; and in others, the development of a low form of independent organizations as in tubercle and cancer. These degraded cells are generally endowed with a very low form of life, and as a genaral rule, the more rapidly they grow, the sooner they soften or die. In idiopathic fevers and so-called zymotic

diseases, it is alleged that the degradation of living plasma takes place in the white corpuscles of the blood itself, owing to the introduction of a foreign germ, either vegetable or animal, which poisons the pabulum or preys upon certain of its constituents, rendering it unfit food for the plasma.

Perhaps this very brief and obviously imperfect synopsis of the argument of those who advocate this later hypothesis, may suffice for the proper understanding of their views of the action of alcohol and other agents upon degraded plasma, for that which is claimed for alcohol may be equally claimed for any agent that exercises a notable influence over cell life in disease. It is claimed that alcohol arrests the development of degraded living plasma, and they give, as a visible instance of it, a small abrasion on the hand or other part of the body, surrounded by tumefaction, redness, hardness, and attended by pain. If now a drop of pure alcohol be allowed to fall upon the abrasion at short intervals, it will cause a momentary increase of pain, but will be followed by relief from pain, and in the course of a few hours, the progress of the formation of degraded plasma will cease, and the part be restored to health. It is said that under the microscope the degraded living plasma taken from a diseased surface goes on under favorable circumstances to continue its growth for a short time, but that the cells formed are deficient in the proper shell, or cell-wall, and from this it is argued that alcohol being taken into the stomach passes into the blood *as alcohol*, and that it is not burnt up as fuel for the evolution of animal heat, as has been believed generally, but, remaining in the blood permeates every tissue, until it is finally eliminated from the body, *still alcohol*, and that coming, *as* alcohol, in contact with the degraded cells which are not protected by a cell-wall, but are, as it were, *naked*, it shrivels them up, or kills them, or arrests their further growth, and so puts an end to diseased action, or so cripples it that restoration to *normal*

living plasma becomes possible. Or, if alcohol does not act in this way, it *may* act, by modifying the pabulum of the blood, depriving it of some constituent necessary to the formation of degraded plasma; or, it may produce new elementary combinations in germ formations, leading to a resumption of the normal process, and ending in the death of the degraded cells, and their elimination, or softening in conjunction with pus formation; pus itself being one of the forms of degraded living plasma.

All this, or any part of it, may be true, physiologically and pathologically; or it may all or in part be the result of imperfect observation and incorrect reasoning *a priori*. The practical fact still remains, that alcohol *does* exert a most powerfully beneficent influence in certain diseased conditions of cell life, or tissuelar metamorphosis. The old theory, that fevers and inflammations, by whatever *cause* produced, are an *exalted vitality*, is, I think at least, not proved, and the newer hypothesis, assuming that they are the result of *degraded* vitality, has the preponderance of evidence in its favor. It is also argued, that while alcohol destroys the degraded, rapidly formed cells, unprotected by cell-walls, it has a preservative effect upon the perfect normal cell, whose envelope defends it against the action of the alcohol on its interior plasma, indeed, that the action of the alcohol toughens the cell-wall by causing it to contract or harden, as it causes albumen, fibrin and other substances to tend to hardness or toughness when applied to them, and that in this way it rarely retards destructive assimilation or metamorphosis of the healthy living plasma, thereby prolonging healthy cell life, and consequently retarding rapid exhaustion of life force. Be these things as they may, there can be no doubt that alcohol, in available forms, suitable for absorption into the blood, exercises a very powerful influence over cell life in disease, and when all these things are better understood than in our present state of knowledge, its administration will be indicated by well known conditions, and

much of the uncertainty that now renders us timid in its use will be removed.

MALTINE.

BY JAS. DAVENPORT, M. D.

For several years, among the many valuable therapeutical measures, and remedial agents, which have been offered to this Society at its annual meetings for inspection and consideration, there has been one, which in the practice of many of the Society has so proven its medicinal value as to entitle it to a place in the report of the committee on materia medica, and a discussion of its merits.

Maltine is an extract of malted wheat, barley and oats, differing from all other extracts of their class, in that wheat and oats are employed as well as barley, which alone is malted in all similar preparations. Maltine, from the nature of its ingredients and results of its action, belongs to the restorative or nutritive class of medicines. In all the diseases to which the most claim of benefit can be made from the use of Maltine, as of cod-liver oil, which is the prominent type of the medicinal agents, beneficial in diseases with chronic tendency, and when the nutritive or restorative measures are proved to be the only true curative agents, there will always be found perversion or failure of nutrition. The two prominent examples of these conditions are seen in the various manifestations of tuberculosis and scropulosis.

The experiments of many physiologists upon themselves and the lower animals, have shown that the condi-

tion of normal nutrition cannot be maintained, still less an increase of tissue elements be produced, by any continued use of any one of the organic ingredients, or any one class of the elements which constitute our food. *Nitrogenized* and *Non-nitrogenized* elements in *combination* or *alternation* are absolutely necessary for the maintenance of the normal health, and especially to bring about an increase in bodily weight, without failure in assimilation, and consequent failure in nutrition.

Carbo-hydrates are claimed as prominent factors in the production of new tissues for repair and to increase bodily weight. A saccharine diet, where a certain amount of fat is formed in the body in excess of that taken with the food, aids the formation of fatty tissue, but at the same time it is necessary that some oily matter should be introduced under its own form as fat.*

Albumenous principles, also, are not only necessary in a healthy dietary system, but enter so largely into the composition of bone and muscle, that not only "no food can be long nutritious unless a certain proportion of these substances be present in it,"† but especially no medicinal agent intended for restoration of tissue waste but what is surely of greater benefit when the combination contains a proper proportion of albumenous principles to the carbo-hydrates. Now it is in this preparation called *Maltine*, a combination of the malt of three grains, wheat, barley and oats, that all the nutritive procimate principles are so joined as to procure an ideal food medicine.

The composition of these three cereal grains, as taken from "Dalton's Human Physiology," is as follows:

	Nitrogenized Matter.	Starch.	Dextrine.	Fat.	Mineral Salts.
Wheat	18.00	66.80	7.50	2.10	2.50
Barley	12.96	66.43	10.00	2.76	3.10
Oats	14.39	60.59	9.25	5.50	3.25

Now if the various malted extracts of these cereals con-

*Dalton's Physiology.

† Dalton's Human Physiology.

tain their proximate elements in this same proportion, it will be seen that an extract of the three grains will contain about one-third more of nitrogenized matter than an extract in which barley is alone employed. Barley contains one-fifteenth more starch, inclusive of dextrine, the process of hydration changing both to glucin or malt sugar, than the average of wheat and oats; again, the latter contains about one-third more fat than barley, and it should be remembered that the oxidizing power of fat is that of carbo-hydrates as 2.4 to 1.

Maltine is entirely free from alcoholic ingredients, owing not even its preservative properties to it. During the process of malting the cereals employed in the preparation of malt extracts, a nitrogenous substance, diastase, analogous to the ferment pytaline of the saliva, is generated. It is to the presence of diastase, which is in large quantity, that Maltine owes much of its medicinal virtue, assisting in the digestion of its own starch into glucose; it is also sufficiently abundant to aid the digestion of articles of a farinaceous character of the ordinary diet. Now, it will be seen that if a remedial agent is required which shall furnish such elements for digestion, together with a readiness of assimilation, as can be converted, not only to the production of economic force but into the various tissues, repairing some constant loss or drain which a diseased condition may have enforced, we have a true restorative agent. And, like cod liver oil, iron and the phosphates, all that is claimed for Maltine is, that its constituents are similar, or during the digestive process can readily be converted into proximate elements which are similar to those constituting the various tissues of the body, which may in exhaustive diseases undergo degeneration.

If any advantage can be claimed for Maltine over other similar extracts, it is in this fact, that it has not only the force producing carbo-hydrates and fat, but an excess of true tissue, forming albumenoides. The value of diastase

is shown by the readiness with which maltine is assimilated and farinaceous digestion facilitated. The value of the diastase as a digestive ferment must be considered in reference to the time of administration of malted grain extracts. The ferment is inactive in the presence of acids, and consequently should be given just before the food is taken, or better, mixed with it so that its action is developed before stomach acid digestion takes place; wine, milk or water may be the vehicle employed. Fothergill recommends that it may be mixed with farinaceous articles of food as a molasses.*

The employment of Maltine, like all tonics or restoratives, may extend through a wide range of diseases: The wasting diseases of childhood; during convalescence from fevers; for the many manifestations of scrofulosis; from the simple glandular enlargement to where a large *psoas* abscess makes a serious drain. During lactation, as a substitute for malted liquors, and their is too often fancied power of increasing the quantity of milk, but particularly to sustain the patient during the severe drain of lactation. It is especially in the various forms and stages of phthisical development that the value of Maltine can be seen. In many of this class of cases, where the digestive process, weakened by the lowered tone of all the functions, and cloyed by the continued difficult digestion necessary to all fats, fails to further assimilate cod liver oil, and the repair which may have been started, arrested, and rapid retrograde metamorphoses threatened, it is wonderful how often the administration of Maltine will again start the repair, and rapid increase in bodily weight be seen, the digestive and other functions of the invalid infused with new force, his mind cheered afresh with hope, and perhaps a cure effected. Many cases of the continuous use of Maltine for months can be given where there has been no interference with digestion, and benefit constantly experienced. It should never be claimed for any malt extracts that they will do

*Practitioner, January, 1880.

away with the readily assimilated fats, of which cod liver oil is the type, entirely, but just as physiology teaches us that ducks fed entirely on butter die of inanition, that bees fed on honey alone will perish, and that a proper union of the food elements are necessary, so must such a combination as Maltine, in many cases, be equal, and in some preferable to cod liver oil, for we have in it sugar, fat and albumen, a valuable ferment and phosphatic salts. The term *restorative* can surely be applied to such a combination.

Dr. J. K. Baudery, in the St. Louis Medical and Surgical Journal of September, 1880, credits Maltine with much value as a remedial agent for "constructive metamorphosis of the brain and nervous system at large," and says, "in the treatment of nervous diseases Maltine is one of the most valuable therapeutic agents at our command," of course as an adjuvant to specific treatment. There is a great variety of Maltine preparations, and perhaps the various compounds may in special cases prove of additional value. "Maltine with cod liver oil," and "Maltine with Hypophosphites" may seem particularly indicated in certain cases where the general use of these additional therapeutical agents have proven their value, and certainly the addition of the Maltine can but improve their efficacy. So in some cases of stomach or intestinal indigestion, "Maltine with Pepsin and Pancreatine" will be found serviceable. "Maltine with Peptones" is considered of much value, from the additional albumenous element of the mixture. It is *not* intended to claim that no other preparations of malted grain may not be of great service as an adjuvant to digestion, or to furnish such force as the carbo-hydrates in the process of assimilation may, but the bulk of theory and clinical evidence seems to show that the combination of albumenous elements and carbo-hydrates makes Maltine the better tissue-forming agent and a better substitute of cod liver oil.

OPHTHALMOLOGY.

RELATION OF THE GENERAL PRACTITIONER TO OPHTHALMOLOGY AND OTOLOGY.

BY A. BLITZ, M. D., MINNEAPOLIS, MINN.,

Late Professor of Diseases of the Eye, Ear and Throat, in the Medical Department of the University of Tennessee.

Ever since Ophthalmology, and later Otology, have emerged from the dark and gloomy surroundings of empiricism, the advocates of more enlightened and scientific researches, practical study, and employment of more intelligent means in the treatment of affections in these two branches of medical science, have had to endure bitter opposition, excited by prejudicial feelings in the general profession. Not only was this opposition directed, and justly so, against the all-curing and ignorant empiricist, but also against the true scientific specialist, who dared to give his entire time to the pursuit of scientific knowledge and intelligent practice of these two branches of medicine, exclusive of all others. But at last science and knowledge have triumphed, and the majority, nay! all true and intelligent physicians, have admitted the necessity for advanced and more extended knowledge in all that pertains to these

delicate organs, the eye and ear, and consider as legitimate their exclusive treatment by competent specialists.

In the last few years, rapid strides have been made in ophthalmology and otology; earnest workers, diligent and untiring investigators all over the world, have added much to our already large stores of knowledge in the different departments of these branches of medicine, so that they comprise and cover such a vast field, that even the most intelligent practitioners find it impossible to spare the time and attention necessary to become adepts in them, being engaged in the arduous duties of an exacting general practice. A majority of them are not only gladly willing to leave this field to those physicians who give it their exclusive and undivided attention, but even encourage them in their efforts, feeling it not only their duty as physicians to do so, from a scientific motive, but also as true and honest men, impelled by the knowledge of real value and benefit accruing from it to suffering humanity.

We have gained glorious and triumphant victories, it is true, and we feel proud and elated over our successes in the past, but I am pained to say, that the fight is not yet over, that still war is waged against us in some quarters, by those in the profession who either do so out of ignorance, or to satisfy personal ends; still I hope and trust that they are in the minority, and will soon see their error and repent.

Much of this feeling has been engendered through the dishonest practices of traveling empirics, charlatans and cure-alls.

While we thus advocate the cause of special practice in these and other departments of medical science, we do not mean to say that the general practitioner has the right to ignore the study of ophthalmology and otology, either in part or entirety. Nay! we see daily increasing necessities for more extensive knowledge in these branches, among the entire medical fraternity, for the number of true and honest followers of this special practice is still very

small; they are scattered over a vast area, often inaccessible to the suffering patient, who then has no other recourse than to rely upon his family physician, in whose knowledge and attainments he has the utmost confidence, for relief from his ailments. This confidence in the family physician is, in the majority of patients, so unbounded as to become almost reverential, and in many instances they will even, in other matters, consult his judgment, and be guided by his advice. This is, to a certain extent, very gratifying indeed, but we think it merits a return on the part of the family physician, to compensate patients for this blind confidence, in being honest and candid with them, and in not misleading them by representing that he knows all about their ailments and how to relieve them, when he is well aware of the deficiency of his knowledge of the diseases of the eye and ear.

Now, while a large proportion of medical men are excellent physicians and may achieve renown as general practitioners, it is a well known fact that even some of the best are very deficient, not only in their knowledge of the diseases of the eye and ear and their proper treatment, but also of the anatomy and physiology of the parts. While it is true that physicians who studied medicine thirty years ago, or perhaps even at a later period, did not have the opportunities to study ophthalmology and otology, as do medical students of the present time, still this should not be an excuse for the lack of knowledge, as every one has the opportunity to keep up with the march of time, by following the course of advancing literature on these subjects, so as to make himself familiar with everything new that may be useful to him and beneficial to his patients. But it is astonishing what little notice medical men will take of the literature on ophthalmology and otology, and the narrowness of the ideas sometimes expressed regarding them.

Not long since, while in conversation with one of our physicians, he remarked that there is very little of any

real value in ophthalmology. Every eye receives the same treatment, and that atropine is the remedy used by every oculist in all its diseases. He further went on to say, that the literature on one medicine in materia medica, opium, is more voluminous than all that has been written on the subject ophthalmology, thus showing how insignificant the latter is, in contrast with the former. My only answer was, that he was an incompetent judge, not being familiar enough with the literature on ophthalmology to give a correct opinion on the subject. Of course we must make some allowances in his case, as materia medica is his hobby.

Some time ago, one of our best general practitioners had a slight affection of his eyes. Becoming very uneasy he consulted me about them. I examined his eyes thoroughly, and explained to him that the trouble was caused by error of refraction, which would be corrected by the use of properly adjusted glasses. The doctor was not satisfied with my explanation, as he could not understand what this had to do with his not being able to see well. I showed him several charts representing different portions of the eyeball, and explained their physiological action, and the condition of eyes in the different forms of errors of refraction and accommodation.

When I finished my explanations, the doctor remarked, "I have learned more about the eye and its internal arrangements from your explanations than I ever before knew."

I have often heard physicians remark about their lack of knowledge of the eye and ear and their diseases, and still, when patients suffering from these diseases, apply to them for relief, they are ever ready to treat them and prescribe the popular drops for either the eye or ear.

Of the value of proper and scientifically adjusted spectacles to remedy errors of refraction, only few physicians have any knowledge, the majority still hold to the popular belief, that spectacles should not be worn until a person

is compelled to do so, or until old enough to require them. Glaucoma and other rapidly destructive diseases are very little understood, and many eyes could be saved if their diseases were better understood by the general practitioner, who with a knowledge of the destructive character of the disease would at once use the proper remedy, or if not prepared to perform necessary operations, would urge upon the patient the necessity for prompt and immediate action in consulting a physician who is competent in that department of medicine.

The following cases will verify the correctness of my statement:

Case I.

Minnie R——, age 3 years, came to me December 20, 1875. Had been treated by family physician several months for otorrhœa of right ear. The father of the child stated that the doctor never used either mirror or speculum to look into the ear, but examined meatus by turning patient's ear towards the light, said there was a sore in the meatus. He dropped glycerine into the ear, but discharge still continued unchecked. Examination revealed inflammation of meatus externus, membrana tympani and middle ear; large perforation of drum-membrane at its anterior-interior aspect. Discharge very abundant. Proper treatment soon relieved the case.

Case II.

Mr. Henry B——,age about 43, a railroad engineer, came to me February 4th, 1876. He stated that about four weeks ago he was seized with pain in his left eye. He went to his family physician, who prescribed a slippery-elm poultice, some eye-drops and a cathartic. The eye became worse very rapidly, and at last he could not see with it. Feeling uneasy about his eye, he told his physician he would place himself under my care. Examin-

ation: Patient unable to see with that eye card of test types hanging on the wall. Ophthalmoscopic inspection showed irido-choroiditis with hemorrhage into the vitreous.

Treatment: Atropine instillation, regularly repeated, abstractions of blood from temple by artificial leech, and constant current occasionally. Internally Potass., Iodid., etc.

Case III.

Mrs. Judith B——, age 45, came to me March 23d, 1876. Had an affection of right eye. Her family physician told her that he would have it cured in six weeks. At the end of about two and a half months the doctor one day examined the eye very searchingly with a magnifying lens, and during this examination he repeatedly shook his head in a very grave manner. The lady becoming alarmed, asked what he thought of the eye. He remarked very gravely: "Madame, I am very sorry to tell you that your eye is lost; I do not think you will ever see out of this eye again. I have done all I could to save it, but I see it is useless to do any more." The lady of course was very much alarmed at this consolation, and came to me for advice. Examination showed keratitis diffusa with ulceration at lower segment of cornea; slight iritis; vision quite dim, eye painful; tension slightly increased.

Treatment: Puncturing ulcer with broad needle, atropine drops and pressure bandage. After irritation subsided, used calomel in the eye; internally gave iron and quinine and good nutritious diet. The eye recovered, only a very slight opacity remaining at the site of the ulcer.

Case IV.

Miss Emma B——, age 18, came to me April 22, 1876. She had been under treatment of her family physician

twelve months for "sore eyes." Being very nervous she objected to eversion of the lids, which was necessary in order to examine the conjunctiva. I told her that unless she consented to an examination of the eyes, I could do nothing for her. She could not see why this should be necessary, as her family physician had never examined them, and had treated them nevertheless. When I expressed surprise that the physician should have treated the eyes, without having ascertained the nature of the affection, the mother of the patient replied, that as Emma was so nervous about the doctor's touching her eyes, he did not examine them, but prescribed drops from time to time for her to use. This treatment did no good, and the eyes were even worse than when treatment was commenced. As I insisted upon an examination, and the patient seeing that I would not do anything for her unless she submitted, she at last consented. On eversion of the lids I found it to be a case of chronic trachoma.

Proper treatment in time removed the disease, and finding the presence of hypermetropia, I prescribed suitable glasses, which entirely relieved her.

Case V.

Emily O——, age 6, was brought to me June 17, 1876. She had been under treatment of family physician for scrofulous ophthalmia of the right eye about two months. She was treated with internal remedies only, the nature of which I could not learn. Upon examination found keratitis of right eye, with large ulcer at outer lower segment of cornea. The loss of tissue reached to membrane of Descemet, which was the only barrier to prevent the escape of the aqueous humor.

Treatment: Puncturing of bottom of ulcer, atropine; quinine and iron internally and a good nutritious diet, also exercise in fresh air. The eye soon recovered, only leaving a small opacity at site of ulcer, which fortunately was below the axis of vision.

CASE VI.

Mary L——, age 2, was brought to me July 9, 1877. Her mother stated, that about two months ago, while playing, the child put some kind of a bead into her right ear. Several physicians who saw the child the same day tried to extract the foreign body, but after making several futile attempts, they only succeeded in wedging it more firmly in the meatus, which had become very much irritated. The physicians then desisted from any further attempt at extraction, and told the mother to let the foreign body remain where it was, as it would never do the child any harm. A few days later a discharge made its appearance from the ear, which increased perceptibly during the next two months, and becoming uneasy the mother brought the child to me.

Examination, after cleansing the ear, revealed a blue-colored substance in front of the membrana tympani, with the swollen lining of the meatus slightly over-lapping its edges. I extracted the foreign substance with Politzer's blunt hook, and found it to be a piece of blue glass, the shape of those generally found set in cheap jewelry. It was about three-eighths of an inch in diameter and three-sixteenths of an inch in thickness; its edges were quite rough, where little pieces had been broken off. The inflammatory action in meatus externus soon yielded to appropriate treatment.

CASE VII.

Mrs. E. J. F——, age 35, came to me November 6, 1877. Had been treated about two months by her family physician for granular lids. When he saw that all the remedies he applied did not relieve the intense pain, he told her that he would bring his nephew with him the following day, and let him scarify the eye. This frightened the patient, and she told him that he need not bring his nephew "as she would not submit to having any cutting done to her eyes."

I examined the eye a few days later and found iritis. The pupil was contracted. After an application of atropine, pupil dilated irregular on account of synechia posterior; the adhesions were at five points of the pupillary margin of iris to lens-capusule. With proper treatement the inflammatory action soon subsided, the adhesions were torn loose, leaving five small spots on the lens-capsule, which somewhat interferes with vision.

CASE VIII.

Mr. E. M——, age 24, came to me July 17, 1878. He stated that he had been treated by a physician, who promised to cure his eyes in six weeks, but as at the end of two months the eyes were no better, and the treatment so severe, he could not continue it. The treatment had consisted of fly-blisters applied to the neck and temples, and as soon as one was taken off another took its place. Besides this he had medicine dropped into the eyes. The physician's diagnosis was "granular lids."

My examination revealed hypermetr-opic astigmatism. Prescribed the following glasses:

R. Eye, +48C. axis 90° ⌒+24S.

L. Eye, +48C. axis 115°⌒ +24S.

Patient had no more trouble with his eyes after this.

CASE IX.

Mr. Robert B——, age 17, came to me August 1, 1878. Had been treated by a physician for disease of his ears. Physician had promised to cure him in a short time, but his ears were worse instead of better at the end of six weeks treatment, and the pain so intense that he had to stop work. I examined the ears and found the following: Right ear: ulceration of membrana tympani, with circumscribed inflammation. Left ear; impacted cerumen pressing against the drum-membrane. After removing this I

found diffuse inflammation of membrana tympani and adjacent portions of meatus externus.

When patient saw the forehead-mirror and speculum I used in the examination, he expressed surprise at these instruments, stating that his former physician had not used such contrivances when examining his ears, but placed the ear he examined towards the window and then looked into it. He also stated that, unlike myself, he had used cold water to syringe his ears; and then poured a few drops of some fluid into them. With proper treatment the ears were well in three weeks.

Case X.

Mrs. A——, age 55, living ten miles in the country, was treated by her family physician for neuralgia in right eye. After several months treatment, vision was entirely lost. The physician told her, that as soon as the neuralgic pains would cease, vision would gradually return. At that time the left eye was not affected. I was called to see the case November 29th, 1878. Arrived at the house at 7:30 P. M. Found patient in bed suffering excruciating pain in both eyes. Examination revealed glaucoma. Tension (+ T 3.); pupils dilated, vision in best eye very dim, patient feverish, pulse frequent, mouth and lips dry, vomiting at intervals. This attack began about noon. As it was too late to operate that night, I gave morphia gr. ½, to allay pain and induce sleep.

In the mean time I had sent for the physician who had attended the patient before. Upon his arrival he went to the bedside and asked the patient what was the trouble, and "if she had noticed any sight returning to the right eye," (the blind one.) I told the doctor, who was an old practitioner, that it was useless to expect a return of vision in that eye, as it is hopelessly lost, and that all we could do, was to try and save the left eye from the same fate.

The doctor was very much astonished at that, and from subsequent conversation, I found that he had not

the remotest idea of the real nature of the disease. He asked what I called the affection; I told him it is glaucoma. He did not know what that was; had never heard of the disease before. Next morning the doctor administered ether to the patient, and I operated, making a large iridectomy in each eye.

The doctor watched the operation very closely, and afterwards asked if I really thought the patient will be able to see out of the left eye, after its having been cut open. He evidently seemed to doubt it, as I noticed him shaking his head in a doubting manner.

The patient has now fair vision in the left eye, and with a proper glass will be able to read, but so far, I am sorry to say, I have had no opportunity to test vision properly.

Case XI.

Minnie G——, age 12, was brought to me March 20th, 1879. The mother said the little girl had been treated for disease of the right ear, by several physicians, who prescribed different remedies for the ear, and the last one, a homœopath, told her never to let anybody touch the ear with instruments, and not to syringe it, but to cleanse it with a little cotton only, and to let nobody put any medicine into it. He gave her a number of small powders, which the patient was to take internally.

Examination revealed a large polypus, filling up nearly the entire meatus, which the mother of the patient stated had been in existence ever since the commencement of the disease. The case did not return for treatment.

Case XII.

Dr. D—— sent his son for me to come and remove a foreign body from the ear of a child. When I arrived at the physician's house I found there Mr. A. E——; Mrs. E——, who had a child about two years old, in her lap;

Dr. D——, and his two sons, one a practicing physician, the other a student, and Mrs. D——, the doctor's wife.

The doctor stated that he and his son had tried to remove the foreign body from the ear, but so far unsuccessfully. They showed me the loop of silver wire which they had used, but they had neither speculum nor mirror. The child was crying lustily, evidently appreciating the scientific treatment so far received. I took from my case of instruments a forehead-mirror and speculum and looked into the right ear. I could only see a mass of blood, the result of the gentle manipulations in the effort to remove the foreign body from the external meatus, without proper light and instruments. I asked them to give me some warm water to which I added some sulphate of zinc and syringed the ear. Examination showed a pea, pushed close up to the membrana tympani, surrounded by the swollen membrane of the meatus, which had been lacerated in the attempt at extraction.

I took Politzer's blunt hook, entering it flatwise, pushed it along the floor of the meatus until I reached the pea, then I depressed the point slightly, pushed it under the pea, then I turned the hook upwards so that it hugged the posterior part of the pea, and then I depressed the handle of the instrument with a quick motion, which sent the pea flying from the ear as if propelled by a spring situated inside the ear. Happily the drum membrane had not been injured. I ordered the ear cleansed and astringent drops for a few days. While I was putting up my instruments the doctor examined them rather critically and remarked, "Yes, a man must have the proper instruments for such fine work." My answer was that instruments alone would do very little good unless the physician understands their use.

The above cases are only a few of the many thousands which could be produced to show the limited knowledge the average general practitioner has of the diseases of the eye and ear. How often do we see cases of otitis media

suppurativa in children, where the family physician has advised the parents to do nothing to check the discharge, but states that the child will outgrow the affection, and often, when too late, these parents find that the constant discharge of pus has not only either partially or wholly destroyed the membrana tympani and other vital parts of the organs of hearing, but is also slowly undermining the general health of the patient, the constant flow of pus from one or both ears being a drain weakening the system. But then, the family physician has said "it is all right," and it has to be so, as his word is law in many families.

How often do we see cases of hyperœmia of the conjunctiva, or blepharitis marginalis, sometimes simply the result of error of refraction, which has been pronounced by the family physician a case of granular lids, and is treated with nitrate of silver, sugar of lead, &c., when the patient simply requires proper glasses to correct that error and by relieving the ciliary muscle of the strain stops the reflex irritation produced in the edges of the lids, or in the conjunctiva.

How often are headache, dizziness and other head-symptoms ascribed to some lesion of the brain, when the patient is perhaps only suffering from some form of astigmatism, and could so easily be relieved by cylindrical glasses properly adjusted. How often do we meet with eyes entirely lost from glaucoma, which could have been saved had the family physician understood the nature of the affection, the rapidity of its destructiveness, and used the proper remedies (iridectomy or sclerotomy) at once, or at least had been able to inform the patient of the danger to the eye, and advise what to do, and to do it immediately, as delay will only too often destroy vision forever. Many of the unfortunates who so lost their eyes can be found in our asylums for the blind and other institutions of public charity.

In examining the eyes of the pupils of the Tennessee school for the blind, situated at Nashville, Tenn., I found

that a large number became blind through maltreatment. There are at present fifty-one blind persons in that school. Of these there are

Males	27
Females	24
Total	51

There ages are as follows:

Between 7 and 20 years	34
" 20 " 30 "	12
" 30 " 50 "	5
Total	51

There ages at first appearance of disease:

Between 1 day and 6 months,	11
" 1 year " 5 years,	10
" 6 " " 10 "	11
" 12 " " 21 "	5
Unknown	1
Born blind	13
Total	51

Of these as far as I can find out, blindness resulted:

From neglect of parents, in	15
Maltreatment, in	27
Unavoidable causes, in	9
Total	51

It will be seen from this table, that in more than half of these cases, the eyes have been lost from maltreatment which certainly shows a lack of knowledge of the diseases of the eye, on the part of the physicians who treated them.

The question which now arises is, can this evil be remedied? and how?

There is only one remedy for it, and in order to make

it effective, we must begin with the students who attend our medical schools.

It is really astonishing to notice how little the average medical student cares for the study of ophthalmology and otology; many think, and even do not hesitate in stating, that they cannot see the necessity of studying these branches of medicine, as they did not intend to practice them; but I have never heard of many practitioners that do not treat diseases of the eye and ear, when patients present themselves for such treatment. The fault is not with the medical students alone, but also in the medical colleges in this country, a number of which have not even established a chair of ophthalmology and otology; and as no lectures upon these subjects are delivered in those colleges, the candidate for the degree of doctor of medicines, (which ought to include all the different branches belonging to medicine), is not even examined on anything connected with ophthalmology and otology.

It is a well known fact that when a student is not compelled to stand an examination on any particular branch of medicine, he will not give it any attention, but will rather study the others, and as *he* thinks, the more important ones, those that are necessary in order to win his diploma.

In my opinion, the greater part of the fault lies with the medical colleges, and this being the part most susceptible of reconstruction, it ought to be done at once. I hope that the movement set on foot to raise the standard of medical education, in all its branches, will succeed. Colleges that do not include a chair on ophthalmology and otology in their curiculum, should at once create one, and fill it with a competent teacher, who shall deliver a thorough course of lectures on these branches, and at the end of the session give the candidate for graduation a rigid examination, and no one should be allowed to pass, who is not well versed in at least the most necessary knowledge of ophthalmology and otology; for when the newly created

doctor goes home, and on his sign has inscribed his title Doctor of Medicine, the public suppose that he is as competent to treat diseases of the eye and ear, as ailments in other parts of the body, and often when too late, find out to their cost that their medical advisor knows as little about the eye or ear, as they themselves.

As a rule the poorer classes are most liable to suffer from this lack of knowledge of the physician, being unable to consult a specialist, or probably being too far away from one, and the disease perhaps of such a nature, as to render the undertaking of a journey an impossibility, thus being thrown entirely upon the only source of help within their reach, viz: the general practitioner.

OPHTHALMOLOGY AND OTOLOGY.

BY FRANCIS ATWOOD, M. D., ST. PAUL, MINN.

Mr. President and Members of the Society:

I have the honor to call your attention to a subject which heretofore has not been represented at the meetings of our Society, I refer to diseases of the ear and their treatment.

It has only been within a comparatively short time that the ear has been studied with that degree of thoroughness which has characterized the study of diseases in other parts of the human body. But now, thanks to the labors of men like Politzer, Gruber and Von Troeltsch the ear is no longer a hidden mystery, not to be meddled with, but its diseases are as fully under our control, as those of other parts of the human frame, so that the time has gone by of giving the advice so often heard, even in inflammations of the middle ear, a disease not without danger to life, and always with danger to the integrity of the ear, to

syringe the ear, and perhaps put a blister behind it, as though that was the limit of human skill, or it may be, if children, to calm the fears of the parents, by telling them they will out-grow it.

I ask the favor of a few moments of your time, and I hope to show—

1st. That the ear is perfectly accessible to treatment.

2d. That it can be treated upon the common principles of surgery; and

3d. That it can be successfully treated.

In the general anatomy of the ear, besides the auricle, we have essentially three parts, the external meatus, an opening leading to the drum, behind this membrane a small space, the cavity of the tympanum, and the eustachian tube, a canal leading from this to the throat; further, we have the nervous part of the ear, the labyrinth, which contains the expansions of the acoustic nerve, but this part is not much concerned in its treatment, so that as far as the diseases of the ear are concerned we may consider simply this canal leading externally to the drum and its cavity, and from this to the throat. The external meatus is lined with a layer of skin reflected from the auricle, this grows thinner as it goes inward until, when it reaches the drum, it is little more than a layer of epithelium; but the inner surface of the drum, cavity of tympanum and eustachian tube, are lined with a layer of mucous membrane, continuous with the lining of the throat, and this mucous membrane, in nine cases out of ten, is the seat of all ear diseases.

Take now, for instance, the general diseases of measles or scarlet fever, in which the mucous membranes of the body are mostly affected, or any of the essential fevers in which there is a considerable congestion of the head, this mucous membrane extending upwards from the throat is often the seat of inflammation; supposing then the mucous membrane lining the middle ear is inflamed? As a result the narrow part of the eustachian tube is soon closed by

swelling, there is a collection of serum with mucus and pus cells, closely confined in a bony cavity, pressure is strongly exerted in all directions, and there is intense pain like the pain from the swollen nerve of a tooth, the drum may give way, as it usually does sooner or later, and pressure being lessened the patient always feels easier, when the ear begins to run.

If now we had this same condition of things existing in any other portion of the body, the first principles of surgery would tell us to keep the part clean and wash away whatever discharge may pass out from the middle ear through any perforation in the drum, but in this way we do not reach the part behind the drum, the seat of the inflammation; but we have in the air douche a simple and effective method of cleansing the middle ear, viz.: By passing a current of air from the throat by the enstachian tube into the cavity of the tympanum this inflation of the middle ear can be done in two ways. the simpler by what is known as Politzer's method, merely the rubber bag is used, and having directed the patient to take a little water in his mouth, you throw air in through the nose at the instant the water is swallowed; the air cannot pass down the throat from the position of the tongue in the act of swallowing, and as the mouth is kept closed the only escape for the air is through the eustachian tubes; the other and more direct method, but not so readily used, is by the eustachian catheter inserted through the nose. Having thus thoroughly cleansed the ear we may apply any medicine applicable to diseases of the mucous membrane in other parts of the body.

Again, consider for a moment, if you please, another class of cases, in which the inflammation is characterized as dry, in distinction from those cases already considered, in which there is a discharge from the ear. Let us trace the changes occurring in this mucous canal in an ordinary cold or sub-acute catarrh, the chief symptom of which is swelling; you notice that the drum membrane is placed

mid-way in this canal, a column of air on either side of it, one freely entering from the outside, and also one coming up inside from the pharynx, so that atmospheric pressure is equal on both sides of the drum; now the neck of the eustachian tube is quite narrow at one point, so that by a slight swelling of its lining membrane this canal to the throat is closed, then the equilibrium of pressure upon the drum membrane is destroyed, and the whole atmospheric pressure, of about fifteen pounds to the square inch, is exerted upon the outer surface of the drum; as a result the tympanum is forced inwards with its connecting chain of ossicles, and the patient has a most disagreeable feeling of pressure, or as though the ear was stopped up, and considerable deafness results; to remedy this whole matter, all that is requisite is merely to use the air douche by sending a current of air through the eustachian tube by one of the methods above described; this simple manœuvre, together with touching the mucous membrane of the throat with some astringent like nitrate of silver, repeated daily, until the catarrh has passed off, will, in a large majority of cases, prevent the disease from running into that chronic form of catarrh, which leads to a proliferation of the fibrous structure of the mucous membrane, or, in other words, that incurable disease usually called thickening of the drum.

CASES.

EAR DISEASES AFTER MEASLES.

N——, 10 years; just passed through a run of measles, recovered perfectly, with the exception of the ears, is now quite deaf, hears the watch only on contact with right ear, and left at two inches; hears conversation only when spoken to in a loud voice, a profuse muco-purulent discharge from both ears, with extreme tenderness over mastoid process. After cleansing the ears I found a perforation of drum in both sides, the discharge oozing out

from behind. I visited the patient daily, cleansing the ears thoroughly with Politzer's air douche and cotton holder, and gave directions to syringe the ears night and morning, and use a solution of two grains of zinc to the ounce, applied after drying the ear. In ten days the discharge had greatly abated and hearing improved; heard watch twelve inches each side; perforation still present, but smaller. I then made a single application of a solution of nitrate of silver, ten grains to the ounce, and next day found perforation entirely closed. At the end of three weeks the ears were dry, and the hearing had returned perfectly; heard the watch four feet and ordinary conversation.

B——, 6 years old; four years ago had scarlet fever, and has had running from the ear ever since, discharge extremely offensive. From right ear a tumor protruded from meatus, in left three small polyps in bottom of meatus. Hears watch only on pressing it upon the ear; hears conversation with difficulty. I removed the large polyp by aid of the snare; it came out entire, being the exact cast of the meatus and fibrous in character; also removed as much as possible of the smaller polyps. The after-treatment consisted, on the part of the patient, to have the ears syringed night and morning, and a two per cent. solution of carbolic acid applied daily. I saw the patient every second day and touched the roots of polyps with stick nitrate of silver, applied on point of probe. At end of four weeks discharge was much less and bad odor wholly disappeared. After this I only saw patient once or twice per week, and six weeks later the ears were dry and hearing was much improved; watch heard at two feet, and could understand ordinary conversation. At the same time the patient had improved greatly in general health. Sometimes, though seldom in scarlet fever, the inflammation is so severe that the drum is entirely destroyed at once, but more often the disease is wholly under control, as in the following case:

C——, 9 years old; just passed through scarlet fever, leaving a discharge in both ears. Patient otherwise well. I found a large perforation in right side, fully one-third of drum being gone; left drum much swollen but no perforation. Patient very deaf; could, with difficulty, be made to understand you. I gave directions to have ear syringed night and morning with warm water, and solution zinc S. gr. ii to ounce applied afterwards. Patient was seen by me daily. Middle ear inflated and carefully cleansed. At the end of two weeks left ear nearly well. Patient heard ordinary conversation; in right ear perforation smaller but still quite large. I then made use of a solution of nitrate of silver, ten grains to the ounce, applied every second day; after three applications the perforation closed and patient was discharged well.

CASES OF DISCHARGE FROM THE EAR OF LONG STANDING, THE RESULT OF SCARLET FEVER.

Mr. L——, from Dakota Territory, for thirty years has had a discharge from right ear; much of the time so offensive that he was obliged to avoid society; has always kept the ear as clean as he could by syringing; was told that he would out-grow the trouble, but thought thirty years long enough to wait. Upon examination I found drum and little bones of the ear entirely gone, a small spot of white at the upper posterior wall of cavity of tympanum; on touching it with a probe it proved to be dead bone. Heard watch only on contact. Patient was directed to syringe the ear night and morning, and use a solution of sulphate zinc. gr. ii to ounce. I saw the patient daily for four weeks, cleansing ear carefully, using Politzer's inflation, and applying every third day a few drops of solution of nitrate of silver, ten grains to drachm. After two weeks of this treatment the patient described ear as feeling freer and more natural. At the end of four weeks discharge stopped and heard the watch at a distance

of one foot. I saw the patient one year after treating him, and found it dry, in same condition as I left it.

ACUTE PURULENT INFLAMMATION, THE RESULT OF EXPOSURE TO COLD.

J. M., aged 16; the day following a sleigh-ride, was seized with violent pain in right ear; was treated by his family physician for two days, when I was called to see him. I found the patient feverish, unable to sleep, and suffering severely; there was considerable tenderness over mastoid, and the drum was red and swollen. I at once applied four leeches, two to the lobe of the ear and two over mastoid; ordered the ear to be filled with hot water often; next day he reported feeling much better, but still considerable pain; two leeches were again applied to lobe of ear. The following day the patient was very comfortable, the drum had ruptured, and the discharge was quite profuse. The subsequent treatment consisted in cleansing the ear, the use of Politzer's inflation, and the use of a mild astringent of sulphate of zinc; in addition the throat was brushed daily with 2 per cent. solution of nitrate of silver, and for the first ten days the patient was kept in doors. At the end of four weeks the discharge had stopped, perforation healed and hearing power normal.

The following is a severe case of purulent inflammation of the middle ear, coming on of itself:

Mr. G—— presented himself March 1st, with the history that three weeks before, after a cold, he had pain in right ear so severe that he was unable to sleep, but had to walk the house; tried poultices and all other family remedies, and attending physician gave him opium, but he could get no rest. After a few days the ear began to discharge, and the pain was somewhat less, but was still unable to sleep. Patient has the appearance of one in the last stages of consumption, so weak that he can scarcely stand, very nervous, no appetite, and much pain in head, marked tenderness over mastoid process, and integument covering it

swollen; hears the watch only in contact with the ear. On examining the ear after cleansing with warm water, found meatus much swollen, drum reddened and perforated and a polyp growing from cavity of tympanum protruding through the drum. Gave directions for patient to keep his room, ordered an iron tonic, nutritious diet, and also to keep ear cleansed with warm water. The following day I removed the polyp with the snare, and applied nitrate of silver to its base. Treatment of ear consisted in syringing with warm water night and morning, inflation daily by Politzer's method, and touching base of polyp with nitrate of silver every second day. After one week the patient had improved considerably, was less nervous, pain abated and appetite much better; he remained under treatment four weeks, when he was so much better that he returned to work, ear still discharging a little, but very comfortable; he was directed to keep ear clean, and apply every second day a solution of nitrate of silver, ten grains to the ounce. He returned to my office two months after when I found ear perfectly dry, perforation in drum healed, heard watch three feet, and could attend to his business as usual—that of a telegraph operator.

Since there is a small opening leading from the cavity of the tympanum to antrum of mastoid—purulent inflammation of the middle ear may extend to this cavity, and abscess of the mastoid be the result. These cases of mastoid diseases are dangerous to life, and many a man has died of "brain fever," when pus pent up in the mastoid cells has been the cause of death, either by setting up meningitis, thrombosis of lateral sinus or abscess of brain. In these severe cases there is a simple mode of relief, perfectly safe, provided it is not too long delayed, viz.: trephining the mastoid outer table into the antrum.

The following is a brief synopsis of a very severe case:

Mr. M——, age 60, naturally strong and healthy, was taken last winter with a severe attack of purulent inflammation of middle ear, after exposure to cold in sleighing.

He described the pain the first week as very acute, accompanied by fever. This kept him at the house three weeks, when he came to me. At that time there was a small central perforation of drum and a muco purulent discharge, not very profuse; some tenderness over region of mastoid. The patient did fairly well, but owing to exposure to cold had several relapses, which were accompanied each time by pain and tenderness over mastoid. This was relieved each time by leeches, but on March 11th the attack of pain was so severe that under ether a free incision was made over mastoid down to bone and through the periosteum; the bone was found perfectly sound, though the operation was followed by marked relief, all pain and soreness left the head, the discharge from the ear stopped and the patient appeared to be perfectly well. But after a week pain set in with redoubled fury, and assisted by Dr. D. W. Hand, I drilled a hole through the mastoid into antrum; the bone was perfectly sound but mastoid cells were carious and filled with pus. This operation relieved the pain for a few days, but it seemed that the hole, which was three-sixteenths of an inch in diameter, was insufficient, since as soon as the hole was a little clogged there was renewed pain, so that finally, with a half-inch gauge and mallet I made a very free opening through the bone, fully three-quarters of an inch in length and one-quarter inch in width. This stopped all further trouble, and patient made a perfect recovery.

I will not take more of your time; I wished simply to show that diseases of the ear could be successfully treated. These are not picked cases, but give a fair idea of cases of discharge from the ear as they occur in practice. It is almost universally the rule that acute cases yield readily to treatment and can be cured unless too great a destruction of the parts has already occurred; while in chronic cases the ulceration of the middle car can be controlled and discharge stopped with at least an improvement in hearing power.

In behalf of your Committee on Ophthalmology I present the following report:

The following is an unusual recovery from a severe injury to the eye-ball, showing to what extent the eye will sometimes bear the presence of a foreign body:

Chas. O——, 25 years old, a railroad employe, while engaged holding a chisel in cutting off the end of an iron rail, was struck on the right eye by an irregular piece of steel, weighing three grains, which flew from the hammer. The eye-ball was cut open at a point about over the insertion of the external rectus muscle, and the steel was buried from sight. The patient came to my office within an hour after the accident happened. I found an irregular cut over one-half inch in length entirely through the sclera, the vitreous oozing from the wound. From the history of the accident, it was evident that the foreign body was within the globe, and the patient was told that the eye was destroyed and probably must be removed. But to try and see what could be done I sent the patient to St. Joseph's Hospital, ordered cold compresses to be applied and a solution of atropine to be used in the eye every two hours. Much to my surprise the patient had but little pain, and although some swelling and inflammation followed, the wound healed kindly, and at the end of four weeks the rent in the sclera had firmly united. On turning the eye strongly inwards, a suspicious looking point was discovered a little posterior to the cicatrix, and I decided to cut down upon it. Having etherized the patient, I carefully dissected away the tissues and came to this piece of steel, which was firmly imbedded under the tendon of the exterior rectus muscle. No vitreous followed its extraction, showing that in the process of healing the foreign body had fortunately worked its way outside of the sclera. The wound made by the operation healed in a few days. Two months after the accident the eye was in the following condition:

Field of vision limited on nasal side to near medium

line. On inspection of eye-ball nothing abnormal noticed in its general appearance. Patient can count fingers at ten feet. Tension of eye-ball much diminished. Nothing abnormal seen in the sclera other than a scar corresponding to the wound. Cornea and iris normal, pupil responds to the light. With the ophthalmoscope I found media tolerably clear, enough so to make out a separation of retina over the entire half of eye on temporal side. The eye gave the patient no trouble, and it is difficult to judge from its appearance which was the injured eye.

Thos. K.——, on the 15th of last January, while filling some molds in an iron foundry, was hit in the right eye by a piece of molten iron; he came to my office one hour after the accident; on depressing the lower lid I found at the outer corner an irregular bit of iron, weighing ten grains, held by the lid against the eye-ball; the iron had burned its way through conjunctiva of both lid and ball; after removing the iron, I ordered the use of cold water dressings, and gave a prescription of one grain of sulphate of atropia to the drachm of castor oil; one drop of the oil applied to the conjunctiva every two hours through the day; to insure sleep I ordered a solution of morphine, but little of this was used as pain was slight; considerable swelling and inflammation followed of both lid and eye-ball, accompanied by a free discharge. A small slough of conjunctiva came away, but the resulting cicatrix was so slight that the movements of eye-ball were not interfered with, and recovery was perfect. The patient returned to work in two weeks.

Burns of the conjunctiva are a bad class of injuries in spite of all treatment; in severe cases the lid will grow fast to the eye-ball, impeding its movements so that the constant pulling of the adhesions keeps up an irritation of the eye in addition to the deformity.

Such cases were formerly considered incurable, until a few years ago Mr. Teale, an English surgeon, hit upon the idea of doing a plastic operation of the conjunctiva, pre-

cisely the same as is done upon the skin in other parts of the body, so at the present time it is considered the best practice to abandon the futile attempt to prevent union between lid and eye-ball by the use of metal plates or other foreign bodies, but to wait until the parts are perfectly healed and then remove the cicatrix and do Mr. Teal's operation. The following is a case in hand:

G. L——, a brakeman, last September caught a large hot cinder in left eye, and before it could be removed it had burned an ugly place in conjunctiva of both under-lid and eye-ball. Three months after the accident he applied to me for relief; at that time I found that the lid had grown fast to the eye-ball, through one-half the extent of the lid, union beginning from the bottom of the *cul de sac*, it being impossible to pass a probe through the cicatrix. Under ether I first freed the lid from the eye-ball by dissection, and cut away the hardened mass of white fibrous cicatrices, this left a large raw surface on both lid and ball. I then cut flaps of healthy conjunctiva from the sides of the eye-ball, brought them around to cover the exposed surface of the eye-ball, and held them in position by sutures; the gaps in conjunctiva were also united by stitches, and a light bandage was applied to keep the lids still. Patient ordered to keep his bed.

The flaps united kindly, removing the deformity, and in ten days the patient was discharged.

A case of cancroid of the upper lid of considerable interest was referred to me last month by Dr. Wheaton.

Mr. McG——, 36 years old, had been troubled with an inflammation of upper lid of left eye about one month; outside the lid presented the appearance of an ordinary stye, but on turning the lid the cause of the swelling proved to be an ulcer in the center of the conjunctiva of lid, about one-half inch in diameter, nearly circular in shape, extending not quite to free border of lid, its edges were raised, angry in appearance, and for the four days I watched it previous to the operation, it extended rapidly;

the ulceration had extended quite through the conjunctiva and cartilage, down to the muscular layer. I showed the case to several medical gentlemen, but no one had ever seen anything like it, but it evidently was either a rodent ulcer or an epithelioma, in either case its removal was necessary. Assisted by Dr. Wheaton, I carefully cut out the ulceration, the incision going into healthy tissue on all sides through the cartilage; the suspicious parts of the cut surface afterwards treated with an eight per cent. solution of chloride of zinc. For the next two days the swelling was considerable, but this gradually disappeared and the parts healed with slight deformity, which will pass away in time; at present there is no evidence of the return of the disease.

ECTROPION.

Feb. 15th, B. D——, age 47, a stout built farmer, from Polk county, Wisconsin, came to me with about the worst looking eyes I ever saw; he had been a sufferer for many years, "off and on," as he expressed it, with granulated lids, and had been treated by quacks. The conjunctiva of lids were discolored by caustics, the under lids of either eye were greatly hypertrophied, both in length and thickness, and entirely erected, exposing its conjunctival surface to wind and dust, as well as leaving the lower half of eye-ball unprotected. The case was most unpromising, but I consoled myself by thinking that he could not easily be made to look worse, and so made the attempt to replace the lids, under ether. I first separated the mucous membrane from the edges of both upper and under lids at outer canthus, I then refreshed the edges of the lids corresponding to this below the ciliæ, then the lower lid was shortened a third of an inch, by a V shaped incision at outer canthus, the cut edges were brought together, and held in position by a pin and sutures, and cold water dressings applied. The same operation was repeated on the left eye. The patient was forbidden opening his eyes

and kept in bed; after forty-eight hours the pin and sutures were removed, and I was happy to find that union by first intention had taken place in both eyes. The result was perfect, the lids in either eye were fitted naturally again to the eye-ball, and all deformity removed.

SERPIGINOUS ULCERS OF THE CORNEA.

Every year, more particularly about harvest time, I have brought to me cases of this malignant disease. It generally is caused by some slight injury, like cutting the cornea with the butt end of wheat straw, or from a bit of dirt thrown from the thresher; the general appearance of the eye and patient shows that you have to deal with some serious disease; pain is severe in eye-ball and brow, the lids are swollen as well as the conjuctiva of eye-ball; a mucopurulent discharge runs from the open lids; the work of the ulcer is quickly done; often in three days the structure of the cornea is entirely destroyed. It begins as a small hazy point in the cornea, which advances in a serpigenous manner, having a crescentic edge of infiltration like the finger-nail; pus is shortly found in the anterior chamber, and the disease is soon complicated with inflammation of the iris, and the deeper tissues of the eye-ball.

Treatment in order to be effective must be prompt, and this consists in operation. We have a choice of two or three. Formerly Saernische's operation was in vogue, of splitting the ulcer boldly from within outwards, entering a narrow Graefe knife in healthy tissue, passing it through the anterior chamber to healthy tissue beyond, and cutting up through the ulcer. I have saved a number of eyes in this manner; but in those severe cases, in which the anterior chamber is already half filled with pus, I prefer to rely either on iridectomy or sclerotomy. The treatment after the operation consists in the use of warm fomentations, with a solution of sulphate of eserine or atropine. I have never yet seen iridectomy fail to save the eye, provided not more than one-half of the cornea was already invaded. I give one case:

J. N——, age 32, from Taylor's Falls, Wis., last harvest cut his right eye with a wheat straw. He came to me one week after the accident suffering severely, the eye was much in the condition pictured above; lids were swollen, tears and matter running from them, the eye was blind, except to tell light from darkness, the ulcer had extended over the entire half of the cornea, and the remainder was hazy by infiltration of its tissue; anterior chamber half full of pus. Under ether, the same day, I made a broad iridectomy downwards and inwards, the anterior chamber being freed from pus by the operation. A solution of atropine was used and a warm poultice applied. The following day the patient reported himself much relieved, he had had no pain since coming out of ether and had slept well all night, the eye itself showed a marked change, swelling in the lid had diminished, the anterior chamber remained free from pus, and edge of ulcer had not extended. The patient had no further pain, and convalescence began at once. In ten days the eye was free from inflammation, and the patient was discharged. The inner half of the cornea had already cleared up sufficiently to give the patient fair sight, which would be still further increased as time goes by.

MEDICAL SOCIETIES.

W. JACOBY, M. D., CHAIRMAN, MANKATO.

Mr. President and Gentlemen:

In behalf of your Committee on Medical Societies I would say, circulars of inquiry were sent out in sufficient numbers, and to such parts of the State, as we supposed would give us the statistics and history of all medical societies in the State.

Dr. A. C. Wedge writes from Albert Lea: A Medical Society was organized here some three years ago, but we have not had any meetings since, so I think we can say we have no Society.

Dr. F. H. Milligan, of Wabasha, responds as follows: The Wabasha Medical Society was organized in 1870, has now fifteen members. President, Dr. O. Lint; Secretary, Dr. VanDyke; Treasurer, Dr. Q. A. Low. We are in a flourishing condition and doing good work.

The Minnesota Valley Medical Society was organized sometime in 1880, meets three times a year, in April, September and December. The meeting in April last was held in Mankato, and was a very interesting and profitable one. The officers are: President, Otis Ayre; Vice-Presidents, C. F. Warner and Dr. Daniels; Secretary, Dr. Swaine; Treasurer, Dr. Merritt. Executive Committee, Drs. Harrington, Stratt and Davis. Number of members, twenty-five.

The Hennepin County Medical Society numbers thirty-

nine members, and has for its President, Dr. Simpson; Vice-President, Dr. Fairbairn; Secretary, Dr. Miller.

The Winona County Medical Society was organized April, 1869, meets quarterly, and has eleven members. President, Dr. J. M. Cole; Treasurer, Isaac Staples; Secretary, J. B. McGaughey.

The Secretary of the Ramsey County Medical Society responds as follows:

DR. W. JACOBY,

Chairman Committee on Medical Societies.

DEAR SIR: Your circular letter of inquiry asking for "intelligence having reference to any Medical Societies in your county," has been placed in my hands by Dr. C. H. Boardman for a reply. The Ramsey County Medical Society was organized February 14, 1870. I have no knowledge of any medical society existing in this county prior to that time. The minutes of the Society show that at the first meeting an organization was effected by the election of the following officers: President, Dr. D. W. Hand; Vice-President, Dr. A. Wharton; Corresponding Secretary, Dr. Wm. Banks; Recording Secretary, Dr. C. H. Boardman; Treasurer, Dr. Samuel D. Flagg.

The Society continued to hold monthly meetings from the above date until Ootober 26, 1874, when, presumably from a lack of interest shown by its members, the meetings ceased to be held for a space of nearly five years.

On March 18, 1879, in pursuance of a call from the then President, Dr. Boardman, the Society again met, was reorganized, and has continued to hold monthly meetings ever since.

At the last meeting the following officers were elected:

President, DR. LEASURE.
Vice President, DR. CHAS. A. WHEATON.
Corresponding Secretary, DR. C. E. ATKINSON.
Recording Secretary, DR. TALBOT JONES.
Treasurer, DR. E. J. ABBOTT.

The Society at the present time is in a flourishing condition, and valuable papers are read at each meeting, after which they are before the Society for discussion, which generally occurs, and is participated in by various members of the Society.

There are ten standing committees, as follows:—

Practice of Medicine.
Materia Medica.
Diseases of Children.
Surgery.
Jurisprudence and Hygiene.
Venereal Diseases.
Obstetrics.
Gynæcology.
Eye and Ear.
Pathology.

Each member of the Society is placed upon one or the other of the different committees, and the order of business is such that at least three papers are read at each meeting.

Volunteer papers can be read, and pathological specimens presented to the Society, at any of its stated meetings. Abstract reports of the papers read before the Society often appear in the Chicago Medical Journals.

There are at the present time thirty-seven members of the Society, and the meetings occur the last Monday in each month, and are generally well attended.

I am, sir,
Your obedient servant,
TALBOT JONES.

RÖTHELN, OR GERMAN MEASLES.

BY C. G. SLAGLE, M. D.

There has been prevailing since about the first of February, in and around Winnebago City, (where I have been observing it,) as well as also in various parts of this State, Iowa, Wisconsin, Michigan, Illinois, Indiana and Ohio, (as I am credibly informed,) and even as far east as Pennsylvania, an epidemic of a rubeoloid exanthematous affection—not important so much for its severity or demand for systematic treatment, as for its obscure pathology and its present uncertain position in our nosology. That it is the genuine "Rubeola" or "Rötheln" of German writers there can, I think, be no doubt, and I have been prompted to observe it somewhat critically, and to endeavor to write up this epidemic from the facts: 1st. That it seems to have been the first epidemic of this affection which has ever prevailed so extensively in this country. 2d. Its unsettled pathology and the chaos or confusion which seems to exist among those who have attempted to write it up, so much so, indeed as to have been deemed of sufficient importance to have been proposed for discussion in the International Medical Congress which convenes in the city of London in a few weeks. (In August.)

The question to be discussed there stands thus—what is Rötheln or German Measles? (so called). Is it measles or scarlatina, or a hybrid of those diseases; or is it rather an affection distinct from either of them?

Without presuming myself to be able to, in any way, forestall the conclusions of that body of learned medical men, I may perhaps be permitted to endorse the opinions of Dr. Murchison and many other acute observers: that it is really "a distinct disease, having nothing whatever to do with either measles or scarlatina, and certainly not protecting its subjects from either of those affections."

Prof. Hartshorn, in Reynold's System of Medicine, says "Rötheln or German Measles is an exanthematous disease intermediate in character, between, or composite of, scarlet fever and measles."

The same author further says: "Altogether in several characteristics Rötheln most nearly approaches scarlet fever; while, in absence of the severity of any of its symptoms, it is more like measles." My observations in this epidemic, on the other hand, compel me to conclude with Dr. Thomas, in Ziemssen's Cyclopedia, that "this affection possesses a similarity to measles only—not the slightest to normal scarlet fever."

Prof. Matson remarks of these exanthemata, as they prevail in different localities, etc.: "Like different human faces, all the complaints belonging to this group have the same set of features and therefore a mutual resemblance: while the separate lineaments differ so much in character and relative circumstances as to give each disease its distinctive aspect." (This is doubtless very true to experienced observers.) I will not say to those only of extensive opportunities for observation, for I am led to conclude that there are very few points in the whole range of medical experience where the general practitioners of the west are so lame as in this very mattter of the differential diagnosis of the exanthemata and cutaneous affections generally. On this point, especially the force of Zimmerman's remarks is strikingly apparent, that, "*Seeing much is not experience*," which is only acquired by long years of careful and intelligent observation of pathological phenomena and correctly comparing symptoms

by analysis and synthesis. That any one can be enabled to speak confidently of his "*experience*"—in rightly interpreting the different phases of those affections, in order to be able to render a correct differential diagnoss in most cases. (This by way of episode.)

Dr. Thomas enumerates 33 writers, who *do not* accept this affection as a distinct and specific disease, also 28 authors who do so regard it.

Thus it would appear that medical opinion in Europe (for.he quotes only European authors) has been pretty equally divided on this subject.

The same author, after reviewing the confusion and disagreement existing among writers concerning this peculiar affection, remarks as follows:

"Since 1860 the specific nature of *Rubeola* ("*Rubeola*" with German writers always means Rötheln never, as with us, measles)—has been defended decidedly and with ever increasing success by Theirfeldeer, Dnais, Veale, Mettenheimer, Lindwooren, and Arnold, Vogel, Menderlech, Dunlop, Squires, Gerhardt, Emminghousler, Kuster and myself (*i. e.* Thomas). Da Costa (in Medical Diagnosis) treats of this affection as "*Rubeola*" or fire measles of the Germans, and remarks:

"Like measles, scarlatina may be mistaken for that curious form of eruptive fever, called by the Germans, rubeola, or fire measles, and which is regarded by some as a roseola, but is generally looked upon as a hybrid of measles and scarlet fever."

He then goes on to describe the disease quite like it has prevailed here recently. Prof. Dunglison gives synonyms—rubeola, rötheln, eruptiona, anomalæ, &c. "An acute exanthem midway between measles and scarlet fever, but which belongs to neither one nor the other, for it affords no protection against either, and may recur more than once in the same individual, and after he has passed through both."

He also further asserts, "It generally resembles scarlet

fever more than measles." D. F. Condie (Diseases of Children) treats (as do most American authors) rubeola as synonymous with measles, and remarks that "the only disease with which there is any risk of confounding measles is scarlatina."

He treats of specific roseola, or scarlet rash, which he describes (like Watson, Flint, Eberle and others) as being accompanied by itching, &c., and evidently, I conclude, not this affection at all.

I desire here to state distinctly that not one of the very many cases which I have observed have had what could with any propriety be called a "scarlet rash;" such at least as could be reasonably confounded with either scarlatina or roseola proper, and fully one-half have had catarrhal symptoms very like genuine measles. I shall also mention a fact, which may be of some importance in the study of this epidemic, as it prevailed in my locality at least, that it has prevaied there during a remarkably healthy season, so far at least as regards the ordinary diseases incident to that locality; no other prevailing disease at that time save, perhaps, influenza, which generally prevails here more or less at that season of the year, and often as an epidemic.

There was not a case of either measles, scarlet fever or diphtheria, to my knowledge, in that vicinity for the several months during which this affection prevailed as an epidemic. Whatever information I have acquired in regard to this affection, either as it has prevailed here or elsewhere, has been obtained from a careful observation of over one hundred cases here during four months past (for fully one-quarter of our entire population has had it during that time), as also from correspondence with over a dozen leading practitioners in various parts of this State, most of whom very promptly and cordially responded to the following questions sent out:

1st. Is there now prevailing in your locality (and if so

to what extent) a peculiar exanthema, resembling either measles or scarlatina?"

2d. By what name or names called there?

3d. Have any cases been serious or fatal?

4th. Has it seemed to complicate or hybridize with other diseases?

5th. By what sequelæ (if any) followed?

6th. Is it believed to be contagious or infectious?

7th. What proportion of cases have had either measles or scarlatina previously?

I have had replies to those queries from Drs. Davis and Harrington, of Mankato; Dr. Talbot Jones, of St. Paul; Dr. Wedge, of Albert Lea; Dr. F. McGuire, of Blue Earth City; Dr. H. N. Rice, of Fairmont; Dr. Straw, of Wells, and some others, all replying that it was prevailing extensively in their several localities. That it had been called by various names, such as scarlet rash, roseola, rubeola, rötheln, German measles, Swede measles, mock measles, false measles, &c. (this by the laity generally, as they felt sure it was some sort of measles), but the physicians mostly agreed that it was the veritable rötheln of German writers. That no case had been serious or fatal, excep tas complicated with or followed by other affections, as especially reported by Dr. E. J. Davis, of Mankato. Not followed by any uniform sequelæ. All who gave an opinion at all, excepting Dr. A. C. Wedge, of Albert Lea, thought it contagious.

They variously reported that from seventy-five to ninety per cent. had had either measles or scarlatina, or both, previously.

ETIOLOGY.

This brings us to the very difficult and unsatisfactory investigation as to whether or not it is really contagious or infectious,—(I beg to employ these terms as synonymous, as is usual, and not as some who attempt to make a very nice discrimination by employing the term, *Infec-*

tious to mean only by personal contact, and *Contagion* to communicate by effluvia from the body, etc.)

Thomas, in Ziemssen, says—"The contagiousness of rubeola is considerable, though somewhat less than that of measles." Again he remarks, "epidemics of rubeola have not yet been sufficiently studied; doubtless from the mildness of the symptoms or because they have been regarded as light cases of measles."

Prof. Louis A. Duhring, in a clinical lecture on this affection delivered in March, and published in the Philadelphia Medical Times, after giving the history of several cases as they recently came under his observation there, makes this remark, (I have not space to quote his cases here,) "These cases would seem to prove its contagious nature, were such proof required."

Hartshorn, and some other authors that I have had before me, do not give an opinion on this point. Drs. Davis, of Mankato, and Jones, of St. Paul, are quite sure that it has manifested an infectious element in their respective localities, and both give examples which would seem to be quite conclusive. Were I, however, compelled to base my opinion on this point on my own personal observations, made with the greatest possible care and scrutiny, and so far as I know, without any preconceived bias in regard to this particular feature or property of this epidemic as it has prevailed here, I should be forced to the conclusion, *either that it is not contagious at all*, or at *least extremely lightly so.*

I do not wonder that a disease which has been so thoroughly epidemic as this has been recently, should be considered contagious by the laity and even by a majority of the general practitioners of the country, who have probably observed it rather carelessly and deemed it of very little importance at any rate. I do not include in this assertion those able, careful and pains-taking physicians already quoted, who differ with me on this point. It may yet be proven, however, as has been suggested by some,

that there are at least two different forms or varieties of this affection—the one resembling more nearly measles, the other more like scarlatina. It may also appear, on further investigation, that, as has been suggested of diphtheria, there is a contagious and also a non-contagious variety of this affection. If indeed such were proven, it would reconcile much of the confusion and conflicting statements made by observers in different localities. This village, Winnebago City, contains a population of about twelve hundred—probably three hundred families. I think it would be safe to state that this disease has visited at least one-fourth of these families, but in very few instances has it gone entirely through a family of several persons. Many families who have been again and again most thoroughly exposed by those having it, have escaped altogether. Have seen cases even when the mother had an attack, and her children excepted altogether. Very many where one only, or at most two of a large family, were attacked all the others escaping, and that, too, in some instances, when the infected slept with the healthy. Case No. 27, from my case-book—J. S——, aged 14. (Had measles, scarlet-fever and diphtheria some years ago,) was attacked, April 20th, with well developed symptoms of rötheln which ran their usual brief and mild course, terminating in perfect health inside of a week, his little sister, 4 or 8 years old, sleeping with him all the time and escaping an attack entirely.

I might add case after case of such negative evidence, (*i.e.* failing to take it after thorough exposure), while whatever seeming positive evidence of contagion could be very readily explained, like superstitious dreams, on the ground of coincidence alone.

It has not seemed to prevail any more among the children going to school, than among those outside around town. But as my observations differ, so greatly, with those more acute observers in other localities—I must let it rest here, and consider this part of the subject still *sub-lite*.

As to the "*epidemic* or *original cause*," aside from the question of infection; we can only perhaps conclude, that it has been, what old Sydenham would term something in the "constitution of the year,"—for we should not soon forget that it has originated and prevailed extensively during a very remarkable season.

A long and very severe winter with a great amount of snow-fall followed by a very sudden transition, to what we might very properly call summer, without much intervening spring.

PATHOLOGY.

The normally developed eruption, as I have observed it, consists of discreet hyperæmic blotches with generally distinct outlines—rising above the surface of the skin, giving it a rough feeling. The rash seems to be rather more punctate than in measles—though greatly resembling it in color, and does not readily fade, on pressure, is much coarser than the rash of scarlatina, and not bright-scarlet in color.

The spots are generally round or oval. It occurs on every part of the body and limbs, but on face first.

Dr. Thomas describes it well, thus: "It is usually only a pale rose red, but suffices for the most part to bring out the spots in marked contrast with the normal skin."

The rash is often attended by œdema about the face and eyes, especially when the glands are much involved. Thomas describes three types of rash in this affection—one with large spots, one with medium, and one with small.

I think I have seen mostly his medium variety, for while they were not large enough for measles they were entirely too large for scarlatina. I have described the rash as generally being discreet; but I have observed some cases where they were confluent especially on neck and breast. Under the glass they seem more pointed and conical than in measles. The rash in the fauces, which is

very seldom, if ever, absent, is bright scarlet and crowded, and excepting being more punctate, more nearly resembles scarlatina. I have seen also elevated red papillia on the tongue, not so thick, though somewhat resembling the "strawberry" tongue of scarlet fever.

The average duration of the fully developed rash, I should say, does not exceed twenty-four hours. I would record the average course of the rash at twenty-four hours to develop or reach its acme, twenty-four hours at full development, and twenty-four hours to recede or fade—thus making seventy-two hours as the average duration of the eruptive stage, and this indeed is often all there is of the disease—as the rash often appears without prodromæ, and soon as faded the patient is well as usual, only perhaps a little weaker.

I have often also seen, as described by Thomas, "After a disappearance of the spots a very delicate and fleeting yellowish or brownish pigmentation."

Desquamation is entirely absent in most cases, though I have seen slight desquamation of the cuticle in a few cases. The eruption is seldom attended with either itching or burning sensations. Have seen a few itchy cases.

I may be permitted again to quote Dr. Thomas as his remarks here so exactly accord with my own late observations. He says: "It cannot be overlooked that the exanthem of rubeola possesses in many cases a great similarity to that of measles, and this circumstance alone is perhaps the reason that even skillful investigators have regarded rubeola as a light form of measles, but a more attentive and repeated observation of the same soon affords means to distinguish from each other thoroughly and at once the far larger majority of cases of the two diseases. Those distinctive features pertain chiefly to the *size*, *form* and *color* of the single spots. The *size* of the spots of rubeola is decidedly *less*, their *form* more *round*. They are not perhaps so angular and indented, nor so often provided with processes."

"Owing to the very slight swelling they seem paler and more as if they had been sprinkled over the surface."

This of course applies only to typical cases. As to the *course* and *symptomatology* of this affection, it has generally, as before remarked, very little prodromus of symptoms. As to incubation or latency Ihave no reliable data, as it has seemed here to attack a great many almost simultaneously, and spread, as before remarked, more from epidemic or endemic influences than from contagion, if indeed it possesses that property at all.

Thomas, who is a strong believer in its contagiousness, put the incubation period at between two and three weeks. The most important symptoms, after those of the skin, are the *catarrhal* and *glandular*, together with the erythema of the velum and pharynx, most of which to a greater or less extent have been present in most cases that I have observed, and have therefore been regarded as pothognomonic symptoms of this affection. The catarrhal symptoms are coryza, with at times sneezing, suffused eyes, slight bronchial cough, with often hoarseness, in fact very much the same as in measles, though always much less intense and of shorter duration.

I accord with Dr. Thomas again, that "a more or less congested condition of the mucous membrane of the palate is never absent." The tonsils are seldom much swollen and very seldom difficulty of swallowing. The tongue almost always coated with a whitish coating interspersed, especially toward the tip, by red papill.æ Swelling of the cervical and post-cervical lymphatic glands to a greater or less extent has been quite common, in a very few only have I seen swelling of the submaxillary glands. The swelling and more or less tenderness of the cervical glands about the ears occurs among the very first symptoms of the attack.

Theirfielder says: "Swelling of the subauricular and superior jugular lymphatic glands was the only constant prodromal symptom in the affection," as observed by him-

self. He also remarks, and I accord, "suppuration of the lymphatic glands has not been observed.

Have seen very little disturbance of the kidneys. The urine has been examined in a few cases, and exhibited nothing abnormal; generally quite free from albumen.

I should have recorded, while speaking of the glandular enlargements, that I have met with six cases of this affection accompanied with and followed by enlargement and tenderness of the thyroid body (2 males and 4 females), and those too who had never experienced any difficulty of that sort previously. One, an adult male, where it remained enlarged and quite painful for several weeks after all other traces of attack had disappeared. The rash is seldom preceded by much fever, but a slight elevation of temperature generally accompanies the first appearance of the eruption.

I took the temperature under the tongue in a number of cases and found it ranged from 99° to 101°. In some cases however it did not rise above normal. If I regard the average temperature of scarlet-fever as 104, of measles 102, I should put this at 100°—(*i. e.* just as eruptions evolve.)

Thomas regards the fever and eruption as coincident, and remarks, "In normal cases of rubeola a prodromal stage of more than a half day cannot be assumed."

In regard to the eruption it, like measles and variola, begins on face and scalp and spreads thence rapidly to body and limbs. The rash disappears entirely from the body in two or three days as a rule. The course of the disease may now be fairly represented by giving a few typical cases as I have observed and noted them clinically.

Case I.

F. W., male, age 17, was attacked March 16, (yesterday), pulse now 96, temperature 101° F. Coryza, suffused eyes, sore throat and hoarseness. Bronchial cough

and bronchial rales over upper and anterior part of chest. Rash appears on face first, about twelve hours since.

Now over entire body and limbs, faucels red, tongue whitish with protruding red papillae near point. Rash preceded some hours by headache and slight chilly sensations. Has usual enlargement of the cervical and post-cervical glands. Rash discreet and punctate, not as bright as in scarlet-fever. Blotches medium in size between those characteristic of measles and scarlet-fever. Fades a very little on pressure, does not itch, nor burn. Had measles four years ago, and scarlatina anginosa two years ago (I attended him in both.) He complains of a rheumatoid stiffness and soreness of the muscles, especially the extensors; no albumen in urine. Gave a little spirits nitre dulc. Act. pot. and gelseminum with a drink and gargle of pot. chloras, and ordered bowels to be opened with sal. rochelle, and to drink freely of flax-seed lemonade.

Saw patient in twenty-four hours, rash almost gone, a slight icteroid hue of skin, especially about face and neck. Temperature normal, pulse ditto, catarrhal symptoms very slight, lymphatic glands still swollen and somewhat tender.

Patient ordered ferro. phos. elix. gent. for a few days, and dismissed. I saw this patient in a few days on the street, and there had been no desquamation of cuticle.

CASE II.

March 24, saw Miss D. M. age 18 years, felt a little out of ordinary health first, about 24 hours ago, as slight headache, loss of appetite, some nervous symptoms. slight chilly sensations at times, etc. Rash appeared on forehead and face a few hours since. She is not sick, feels as though she had "taken slight cold." Has slight catarrhal symptoms in eyes, nose and throat, some hoarseness, pulse 88, temperature 100°, tongue furred, slight enlargement of lymphatic glands about the ears, rash about as

described in former-case (F. W.), diffused red punctate, rash in fauces.

Ordered light diet, a little Roschelle salts, pot. chloras; saw her again in twenty-four hours, symptoms about the same, only rash all over the body, pulse and temperature normal etc. Continued treatment, saw her again in twenty-four hours, rash faded with very slight exfoliation of epidermis in spots, icteroid hue of skin slightly in spots only. Dismissed with a little iron tonic, etc.

This case had also both measles and scarlatina previously.

Case III.

March 27, Mrs. J. T., age 28, married, has three small children, was taken with headache, chilly sensations (nervous), anorexia etc., about three days since Rash appeared on forehead and face and scalp in about twenty-four hours, now all over body; has strong catarrhal symptoms in eyes, throat, nose, bronchi; enlargement of lymphatic glands about the neck, characteristic erythematous rash on fauces and on velum. Has been close in the house, and seen no one with the affection, (none yet in this immediate neighborhood). Has had measles, scarlet fever and varioloid previously, (children well.) She is quite out of health and nursing babe one year old, surroundings bad, pulse 96, temperature 100°, ordered bromidia to quiet nervous symptoms, Dover, camph, and a diuretic.

Saw her in thirty-six hours, symptoms all disappearing rapidiy, temperature and pulse normal, rash almost gone, ordered ferro. phos. elix. calisaya bark with strych, and dismissed the case. Called in three weeks, had been no other case in the house.

Case IV.

My next case to report is that of my son, aged 15, fair complexion, healthy, has had measles and diphtheria some years ago. While going to school in this village,

April 10, was taken with the peculiar rash already described, first on face and scalp, thence rapidly over the body and limbs, with almost no prodromal or concomittant constitutional symptoms. Feels well only some slight catarrhal symptoms. Rash well developed and bright, slight enlargement of lymphatic glands about neck, no sore throat, no hoarseness, slight œdema about face. Continues at school, rash fades as usual without desquamation, and in twenty-four hours more is gone, leaving no trace behind it. This case had no elevation of temperature or pulse, constitutional symptoms almost nil, and yet the rash was very well developed. I afterwards saw a great number of these very mild cases, though always in those of previously very good health, and no strumous cachexy apparent. During this attack my little girl, four years old, was constantly and thoroughly exposed with him, and although several weeks after this my wife and servant girl had a very mild attack, the little girl has never had it to my knowledge.

The next and last case which I shall report here, has recently come under my observation June 10, D. J. R., age 22, a healthy plethoric youug man, who came to this village from Pennsylvania, about four weeks since, where he informed me there had been prevailing for several months an exanthema which is there called "Scarlet Rash," and from his description of it have no doubt in my mind but that it is this same affection. He states that he was more or less exposed to it there for several weeks previous to coming out to Minnesota, but has not seen any one here with it to his knowledge. He was attacked forty-eight hours since with slight catarrhal symptoms in head, throat, eyes and nose. Some soreness of glands about the neck, malaise, anorexia, headache, etc. About twelve hours since he noticed a peculiar rash on forehead and soon on face—a little itchy. Has now extended over body and limbs—a little darker and not quite so elevated as usual—though sufficiently characteristic to enable me

to render an early and positive diagnosis, of rötheln, erythema in fauces very characteristic. Temperature 99½, pulse normal; ordered a little refrigerant and diuretic treatment, and saw him again in twenty-four hours; rash gone entirely without leaving any traces of its former presence. Symptoms all normal. Dismissed without further treatment.

Complications in this epidemic have been an exception to the rule. Have seen two cases complicated with urticaria, but the subjects in both instances were known to have been strongly predisposed to that affection. Have seen a very few cases complicated with catarrhal tonsilitis; one with acute articular rheumatism; a number with catarrhal bronchitis.

My friend, Dr. E. J. Davis, of Mankato, reports a number of instances where it was complicated with croupal diphtheria, and those proved fatal.

Dr. Davis regards this rötheln as a "septic disease." Has seen very serious sequelæ, as croupous diphtheria, spinal meningitis, rheumatoid affections of the joints, etc. He thinks it should be treated with anti-septies, and regards it as "an affection of considerable importance."

As before stated, I have seen no regular sequelœ to this effection here in Winnebago City. Whatever various results have followed an attack of this disease, have seemed to depend on accidental circumstances: such as individual predispositions, neglect of treatment, etc., and have not been uniform. They have been, for the most part, general debility, enæmia, glandular enlargement, bronchial ailments, and in females menstrual derangements.

You will readily observe gentlemen, from what I have said of this affection that it has not been confined to children or the young by any means, though I have not seen a case in an adult over forty years old.

The prognosis of simple uncomplicated rötheln must always be favorable. Being, in its pure state, one of the very mildest of the exanthems. Complications can, however, of course, render it troublesome, and even dangerous.

I think a light rubeola occurring in the course of some other affection would have but little influence on the first or primary affection. This also seems to be the opinion of most of the writers on this affection.

As to treatment, I have no specific treatment to suggest, nor do I believe any systematic treatment is necessary in most cases. When called upon to treat it, I have generally been content to search out as far as possible the indications in each individual case and meet them *pro re nata*. And still in a great many cases I believe that some sort of mild remedies for the blood and glandular system is necessary to anticipate the various morbid conditions of the system which may otherwise result from an attack of this affection.

And now, gentlemen of the medical profession, and to those of you especially who have deemed this rather curious affection of little importance, I desire to insist that an affection which can and has prevailed so extensively, and in many instances not without important results; a disease upon which a great many medical men have written more or less and differing widely as they have done in regard to its true nature; an affection which yet stands without any satisfactory name—whose etiology, pathology, &c., remains undetermined—must be of considerable importance in a scientific aspect, and if I have in this rather prolix and desultory notice of it only succeeded in bringing it more prominently before the medical profession of this part of the country, I will have accomplished something, and must trust that whatever errors of observation and suggestion I may have made will readily be corrected by those who may choose to investigate it in the future. And to those medical brethren present who have so promptly responded to my inquiries in regard to its prevalence, &c., in their several localities, and who have so generously encouraged me in my humble efforts to write it up, I desire to return my sincere thanks.

WINNEBAGO CITY, Minn. June 10, 1881.

PUERPERAL CONVULSIONS.

BY C. G. SLAGLE, M. D.

A CASE OF PUERPERAL CONVULSIONS TREATED BY DEPLETION WITH THE LANCET AND PROLONGED ADMINISTRATION OF CHLOROFORM—RECOVERY.

Mrs. W., aged 26; primipara, healthy and plethoric; about eight months pregnant. Had enjoyed the very best of health until she was taken, May 29th, with light pains in hips and back, and thence extending to stomach and head. Saw her about sixteen hours after first symptoms, (at 8 P. M., 29th). She had been vomiting some; pains had not been severe; bowels a little relaxed; kidneys acting well, though feet and lower limbs somewhat œdematous, (only within the last eight hours). About ten minutes after my arrival at the bedside, and before I could elicit the history and symptoms of the case, (excepting her statement that pains were mostly in stomach and head,) she suddenly cried out with pain ("*Cramp*," she expressed it,) in her right arm, midway between elbow and shoulder, which she grasped with her left hand, and immediately went into a terrible convulsion—typical, in every feature, of "puerperal eclampsia." This lasted probably five minutes, after which she remained comatose for about same period, then aroused to perfect consciousness

and spoke, she not seeming to realize what had happened.

I immediately proceeded to make an examination per vaginam, and found the os fully dilated and soft—head of the child pressing low down and firmly engaged in inferior strait of pelvis. I attempted to push it back in order, if possible, to turn and deliver as speedily as possible by the feet, as I had no forceps with me. (Not knowing when I received the call that it was a case of labor). I found it impossible to perform version, and therefore gave a full dose of ergot, and in a few moments a large dose of bromide of potassium, and sent a messenger in haste to Winnebago City (three miles distant) for forceps and lancet, and requesting the assistance of Dr. Humes.

She had some wandering, inefficient uterine pains, and in about forty-five minutes went into another convulsion, which lasted somewhat longer than the first, after which she remained comatose about twenty minutes, and did not regain her consciousness as well as after former paroxysm. I gave another large dose of ergot and bromide of potassium, but in about half an hour she had another convulsion, when the child was forced out without much seeming natural uterine contraction. The child was dead, and bore the appearance of having been so for several hours at least. The placenta I found was detached, and I withdrew it at once without any flowing, and uterus contracted well.

In about half an hour after this Dr. Humes arrived, and in a few minutes after he got in the house she had another and still harder convulsion, after which she did not arouse to consciousness. I then bled her, about twenty-four ounces from the arm, and gave her about a dram of bromide of potassium and twenty grains of hydrate of chloral, which she immediately vomited.

Dr. Humes then put her under the influence of chloroform, which seemed to avert the spasms while fully anæsthetized, but as soon as chloroform was suspended she

would have another hard convulsion, until by 2 A. M. she had had in all ten; after which she was kept constantly and pretty thoroughly anæsthetized without having another seizure until about 10 A. M., when the supply of chloroform becoming exhausted she was seized with another convulsion, which came very near terminating her life. In a few minutes a supply of chloroform was brought, and she was kept pretty thoroughly anæsthetized for several hours, when another effort was made to suspend it; but strong spasmodic symptoms developing again it was resumed, and although several efforts were made to suspend it it was not until about twenty-four hours afterwards (*i. e.* thirty-six hours after its adoption) that by injections of large doses of bromide of potossium, ergot and chloral into bowels, the chloroform was at length suspended, and with ergot, bromide of potassium, chloral and veratrum viride for forty-eight hours longer the patient made a rapid and uninterrupted recovery, and is at present (twenty-first day) as well as usual, excepting a little weak, and conscious of impaired memory, etc.

Here was a case of puerperal convulsions, probably from centric irritation radiating from the uterus through the incident excitor nerve-fibres of the spinal and sympathetic uterine nerves. A case well adapted to the use of the lancet and anæsthetics. I believe we owe her life entirely to those agents, for we could not get her to swallow after about the third or fourth convulsion, and the enemata of bromide of potassa, chloral, etc., were persistently rejected for the first twenty-four hours.

Indeed, the anæsthetic seemed to be the only resource left after depletion, and it was employed persistently and unsparingly as the case was evidently a desperate one, and seemed to fully justify heroic measures. We employed in thirty-six hours about twelve ounces of Squibb's chloroform. The urine was not examined critically for albumen, though probably excusable under the excitement incident to so desperate a case, (certainly an oversight,) still I have

every reason to believe that this was not a case of toxæmia or uræmic poisoning, from the fact of her perfect health up to the moment of attack. The almost entire absence of anasarca, the very free flow of good healthy-looking urine, and her speedy and perfect recovery under the means employed.

C. G. SLAGLE.

June 18, 1881.

MEDICAL EXPERT TESTIMONY.

BY C. H. BOARDMAN, M. D.

It is one of the anomalies of our boasted civilization, that here and there we come upon systems and practices so dissonant with the marvellous progress of the age as to excite wonder in the thoughtful beholder at the existence of such anachronisms. It is as though a ballista of the age of Hadrian or an arquebuse of Elizabeth's time, removed from their resting place in some ancient museum, should be found in a modern armory, side by side with Winchester rifles and other arms of precision.

Such an anomaly is the solemn mockery known to our courts as medical expert testimony. If not hoary with antiquity, it has at least long out-lived its usefulness, and should be at once consigned to whatever receptacle may be most fit for the repose of specimens of legal pathology; or, rather, let me say, of legal teratology: for the system of which I speak is a true monster: and its remains will in the future, and I trust at no distant day, be regarded with emotions of mingled pity and astonishment: pity, that the body politic should ever have been afflicted by so uncouth a neoplasm, and astonishment that the deformity should be so long unrecognized and measures for its extirpation be neglected for so many years.

It can scarcely be necessary, in addressing this Society, to offer an argument to establish the fact of the existence of this evil or to cite illustrations of its magnitude. Many

of my hearers have practical knowledge of that of which I speak; and the thought must have occurred to more than one of you while in attendance upon trials in which this species of evidence was required, that if its chief aim was to afford diversion to the court and jury, and to cast discredit upon our profession, its designer was entitled to a large measure of praise for the marvellous ingenuity with which he has adapted the means to the desired end. But if, on the other hand, it was sought to cast light upon difficult problems, and enable juries to approximate the truth more nearly than would otherwise be the case, then it is equally clear that only a miserable travesty of justice is attained, and a system admirably calculated to confuse the intellect and unsettle the judgment. As it is unnecessary to demonstrate to you the existence of the absurd system in question, so there is no occasion to point out the specific evils of which it is the prolific source: this has been many times done, and you are experimentally familiar with them.

What chiefly concerns us at present is to devise a remedy for that which is so obnoxious to us as individuals, and discreditable to us as a profession. It is only by arriving at and maintaining a fit conception of the true dignity of our profession as a science, that we shall unitedly and heartily endeavor to remove the opprobrium which we have so long permitted to rest upon it.

But even if this *amour propre* should be wanting, there is not lacking an incentive to action which, if more ignoble, may prove also to be more potent. We have already ample assurance that no immunity from suits for malpractice is to be enjoyed by the profession of this State; any of its members are liable at any time to be brought into court to answer to charges which are often malicious, and almost always based upon grossly insufficient grounds. We have then one of the most powerful of all motives, self-protection, as an inducement to a more determined effort and co-operation than have yet been attempted; and

that you may be stimulated to put forth such an effort is the chief object of this paper. In a recent number of the Philadelphia Medical Times there appeared an earnest plea for reform in the matter under consideration, by Prof. Reese, of the University of Pennsylvania, whose skill as a toxicologist is widely known, and whose high reputation as a medical jurisprudent entitles his opinion to great weight and the most respectful consideration. After dwelling, in the article to which reference is made, upon the acknowledged defects which vitiate, to a great extent, existing laws providing for medical expert testimony, Prof. Reese urges the adoption of a modification of the well-known Prussian system, as follows:

"Let there be appointed by the proper authorities, for each of our States, one or more thoroughly educated practical physicians, properly trained in all the details of medical jurisprudence, including toxicology. These should be known as the 'State Medical Experts.' The duty of such an official shall be to attend upon every criminal trial in his district, when summoned by the court, *as the skilled witness of the prosecution.* He shall sit with the judges throughout the trial as the *amicus curiæ*, giving special attention to such points as may require the professional assistance of medical experts, so that he may enlighten the court and jury on the technical aspects of the case. He shall be prepared to make all the requisite medical, microscopic, and toxicological investigations in any case requiring them. Thus, in poison cases, the district attorney will be saved the trouble and expense of hunting up a suitable toxicologist. By his expert testimony the prosecution will always be guided. There will be no necessity of appeal from his decision. He should possess a chemical laboratory, and all other appliances necessary to the thorough fulfillment of his duties. Although summoned by the State, he is, by no means, to be regarded in the light of a partisan, any more than the judge upon the bench. He can have no temptation to a bias for either side. He

would render his 'opinion' grounded solely upon truth; and both his moral and professional character and acquirements should be such as to preclude the possibility of error, so far as human infirmity may admit. * * * * * * There would, doubtless, arise some cases in which the defence would claim the right (which, of course, should always be conceded,) of employing their own expert witnesses. This, however, need not in the least interfere with the State officer, since, if the former be thoroughly competent experts, they will be the less likely to differ from the latter; even if they should perchance differ from the State experts, the prisoner will still enjoy all the advantages which he would possess under our present system."

This scheme of Prof. Reese has much to recommend it, and would undoubtedly prov e a corrective to the abuses of which we complain. It may be questioned, however, whether the people, at least in the newer States, are prepared for so radical a departure from the old regime. For "*nemo repente optimus*" is as true as "*nemo repente turpissimus;*" and it may be that the attainment of a partial reform may be accomplished more readily than that of the ideal system, to which, at the same time, it may eventually lead. The plan advocated by the writer involves no abrupt abandonment of old traditions, while it offers a reasonable assurance that its operation would efface most, if not all, of the offensive features of the existing system.

It provides simply that the court shall be furnished by the counsel, both for plaintiff and defendant, with a list of physicians whom they are willing should be called upon to testify, and that a certain number of these, say three or five, shall be summoned by the court to attend the trial as witnesses: and after hearing the evidence, the medical witnesses thus selected shall (after a consultation, if it be desired) express their opinion by means of the usual examination and cross-examination. The defendant may

exercise his constitutional right of summoning his own witnesses, as in Prof. Reese's scheme. This modification of the statutes now in force was urged last winter upon the Judiciary Committee of the House by the writer, with the concurrence of the Ramsey County Medical Society; and while its advocacy was not rewarded by its adoption or even by its introduction to the House, the friendly reception and commendation which were accorded to it by members of the committee were such as to justify the belief that an organized effort on its behalf will, two years hence, secure the desired legislation.

The advantages to be derived from such an enactment are manifold, and to some of them a brief reference may be pertinent.

In the first place, the physician thus summoned becomes no longer a special pleader, as is the case at present, but what the law contemplates and what he is supposed to be; an unbiased witness, whose presence is desired that he may enlighten the jury as to matters with which they are unfamiliar; and not an advocate whose chief aim is to sustain the cause in which he is interested, it may be financially as well as intellectually, and to achieve as exact a coincidence as possible between his preconceived notions and his testimony. Not having been approached by counsel with plausible *ex parte* statements, he engages in the trial without bias to either party to the suit, and is thus enabled to give their due weight to facts which upon a preoccupied mind might make little or no impression. It is irrational and illogical in the highest degree to require of the petit jury that they shall have formed no opinion whatever upon the case, or even that they shall not have heard of it, while medical experts, who are simply a medical jury, are permitted to testify with minds thoroughly prepossessed, and perhaps prejudiced, in favor of one side or the other.

It would be easy, if time permitted, to point out the

manner in which other influences conspire under these circumstances to render a fair estimate of the cause at issue impossible. For example, the reluctance which all men feel to admit the commission of a mistake is a potent factor in leading such witnesses to withhold their true significance from the facts offered in evidence upon one side, and to magnify unduly those upon the other; and I doubt not but that some to whom I speak have been conscious of an argument into which they have entered with themselves under the circumstances in question, the real, though unconscious object of which was to convince themselves against their better judgment; and so it may come to pass that opinions may be avowed in the witness box which elsewhere would not be so unhesitatingly expressed. But further, it has happened, and therefore it may occur again, that medical experts have been encountered whose sole claim to the application resides in their title. That was a wise saying: "*De pictore, sculptore, pictore, nisi artifex, judicare non potest.*" And had the forum witnessed trials conducted as are these in our own enlightened age, there can be no question but that Pliny would have amended his list, by adding to it the words, *et de medico.* It is not claimed that the scheme under consideration would of necessity bar pretenders from appearing in court, but it would certainly lessen very greatly the chances of their demanding and obtaining expert fees, and would increase to a corresponding degree the probability that medical witnesses would be what the law asumes them to be: men of integrity and uprightness as to character, and of respectable attainments in the profession which they represent.

Not least among the gains to be anticipated from the introduction of the new system, is the disappearance, if not altogether, at least to a great extent, of the unseemly wrangling and exhibition of partisanship of which the court room is at times the arena, and which so sadly mars the fair surface of the Esculapian escutcheon. A dispensation which should relieve us from this too frequent fea-

ture of our trials would be a welcome innovation, and its benefits would be felt nowhere more markedly than in malpractice suits.

And, finally, the contempt—and I may say the deserved contempt—with which medical evidence is too often received, would give place under the new order of things to a respectful hearing and to the consideration to which the matured judgment of impartial and scientific men is justly entitled.

In conclusion, it may be said that this paper, already, perhaps, unduly long, was begun with the expectation that its reading would occupy not more than five minutes; but it occurred to the writer while engaged upon the first pages that it might be well to present the subject in a somewhat less cursory manner, in the hope that it may be brought to the attention of others than the members of our profession, and especially to that of the bar of our State; and that so their interest may be excited, and they may unite with us in a determined effort to secure the needed reform.

I appeal, then, to the Society, that this matter may not be allowed to rest with the customary reference of the paper to the Publication Committee, nor even with the appointment of a special committee whose duty it shall be to urge reform upon the legislature. The necessary work, gentlemen, if done at all, must be done, not at the eleventh hour in the lobbies of the Capitol, but at your respective homes. True progress is of necessity a growth: seedtime must precede the harvest, and the quality of the harvest will depend largely upon the faithfulness and assiduity with which the seed is sown and cultivated. Let each one of us then endeavor diligently to impress upon our various communities the imperative necessity for a change of method; impress upon your neighbors the fact that this is a matter in which they are personally interested; since the issue of every suit, civil or criminal, in which they may chance to become involved, and in which

medical testimony is required, may depend largely upon the quality of that evidence. Create thus a public sentiment that shall find its expression through our representatives; and then, when these come together to make and amend our laws, the preliminary work being thoroughly done, the final shaping of the measure may safely be left to a competent committee who need not waste the precious early weeks of the session in meeting and overcoming objections, achieving success only to lose the fruit of their labors in the hurry and rush of the closing days, but who shall find the "fields already ripe unto the harvest," whose garnering shall be their only care.

If we but unite heartily and honestly in this effort, and secure the co-operation of our brethren of the bar, whose sympathies are already with us, we shall surely remove the stigma under which we have too long been contented to rest, and shall place our young State in advance of her older sisters, who are still laboring under the same incubus.

CONSTITUTION

OF THE

MINNESOTA STATE MEDICAL SOCIETY.

ARTICLE I.

SECTION 1. This Association shall be called "THE MINNESOTA STATE MEDICAL SOCIETY," and shall be composed of active members and honorary members.

SECTION 2. There shall be an annual meeting of the Society. The annual meetings shall be held on the third Tuesday of June of each year, alternately in the cities of Saint Paul, Minneapolis, and such other place as may be designated by a vote of a majority of the members present at the meeting next preceding such appointment; provided, that when the American Medical Association meets in Minnesota, the time and place of the State Medical Society may be changed in conformity therewith. Any member leaving the boundaries of the State may have a certificate of his standing on payment of dues. Special meetings may be called by the President upon the petition of ten members, twenty days public notice being given previous to such meeting in one or more of the daily papers published at Saint Paul. At all meetings fifteen members shall constitute a quorum.

ARTICLE II.

SECTION 1. The Society shall constantly have in view:

First—The association of the profession for mutual recognition and fellowship.

Second—The maintenance of union, harmony, and good government among its members, thereby promoting the character, interests, honor and usefulness of the profession.

Third—The cultivation and advancement of medical science and literature, and the elevation of the standard of professional education.

ARTICLE III.

SECTION 1. The active members of this Society shall be regular practitioners of medicine and surgery in the State of Minnesota, who shall be elected by a vote of the majority at any regular meeting, their eligibility having been previously reported upon by the Committee on Membership.

SECTION 2. The officers of the county or district societies are required to report each year to the Recording Secretary of the State Medical Society the names of all their members, to serve as a basis for the medical statistics of the State; and no physician not in good standing in his own county or district society shall be admitted as a member of the State Medical Society.

ARTICLE IV.

SECTION 1. Honorary members shall be admitted only by a vote of two-thirds of the members present at a regular meeting, having first been recommended by the Committee on Membership.

ARTICLE V.

SECTION 1. This Society shall have the power to censure or expel any member convicted of violating its provisions, or who may be guilty of any act which may be considered derogatory to the honor of the medical profession; but a vote of four-fifths of the members present shall be required for the expulsion of a member, which vote shall be had in

consequence of a report from Board of Censors, and at the next regular meeting subsequent to such report.

ARTICLE VI.

SECTION 1. The officers of this Society shall be a President, three Vice Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and a Board of Censors composed of six members, all of whom shall be elected annually except the Board of Censors, who shall be elected in the manner hereinafter described. They shall severally perform the duties assigned to them in the By-Laws, as shall also the standing committees.

SECTION 2. The nominations of all officers for the Society shall be made in open convention, and the election shall be by written ballot. A majority of votes shall constitute an election.

ARTICLE VII.

SECTION 1. The following standing committees shall be appointed annually by the President, and shall consist of five members each, except the Committee on Necrology, which shall consist of three members:

1st, an Executive Committee; 2d, a Committee on Finance; 3d, a Committee on Publication; 4th, a Committee on Epidemics, Climatology and Hygiene; 5th, a Committee on Practical Medicine; 6th, a Committee on Surgery; 7th, a Committee on Obstetrics; 8th, a Committee on Necrology.

SECTION 2. At the annual meeting the President shall appoint an Essayist, whose duty it shall be to read an essay upon some medical subject at the next annual meeting.

SECTION 3. As soon as the amendment constituting a Board of Censors shall have passed, the Society shall proceed to elect two Censors to hold office for one year, two for two years, and two for three; and two annually thereafter to serve for three years. The third Vice

President shall be, ex-officio, a member of the Board of Censors.

ARTICLE VIII.

SECTION 1. All regular practitioners of medicine or surgery in each district of the State may unite and form a Medical Society of the district or county in which they reside, to be known as the Medical Society of———* district or county. Such societies shall be auxiliary to the State Medical Society, and through their officers shall perform such duties as may be assigned them by the By-laws of the State Society. Each county or district society shall file a copy of its Constitution and By-Laws with the State Society. No one shall be a member of a district or county society who is not eligible to membership in the State Medical Society.

ARTICLE IX.

SECTION 1. No part of this Constitution shall be repealed, annulled, altered, or amended, except at a regular meeting subsequent to one at which a proposition to that effect may have been made in writing, and then only upon a vote of two-thirds of the members present; but it may be amended by a unanimous vote at any regular annual meeting without a year's written notice.

WHEREAS, It should be the object and aim of all professional societies not only to benefit their members, but also the people of whom their members are the representatives; therefore,

Resolved, That the Minnesota State Medical Society requires a qualification of literary proficiency, professional knowledge, and good moral character, as now demanded of applicants for membership, without reference to race, color or sex.

*Insert the name of district or county.

BY-LAWS

OF THE

MINNESOTA STATE MEDICAL SOCIETY.

ARTICLE I.

SECTION 1. The President shall preside at all meetings, enforce a due observance of the Constitution and By-Laws, see that all officers and members of committees perform their respective duties, appoint all committees not otherwise provided for, give the casting vote only, sign diplomas and all other official documents requiring his signature, and perform such other duties as pertain to his office by usage and custom.

SECTION 2. The Vice Presidents shall assist the President in the performance of his duties, and in his absence shall preside in his order of rank.

SECTION 3. The Recording Secretary shall keep the minutes of the proceedings of all meetings, notify all officers of their election, sign certificates, and certify to all official acts requiring the same, and do all such other business as shall be required, or as the Society shall from time to time direct. He shall notify the chairmen of all committees who have work to perform for the next meeting, within two weeks after adjournment.

The Corresponding Secretary shall attend to such duties as actually pertain to his office.

SECTION 4. The Treasurer shall receive all moneys due the Society, and pay all bills audited and approved by the finance committee and countersigned by the President, keeping correct account of the same, and shall receive the signatures and initiation fees of the newly elected members, and shall make a full and detailed report at the annual meeting.

ARTICLE II.

SECTION 1. The Standing Committees shall keep regular minutes of their proceedings, and furnish an authenticated copy to be deposited with the Recording Secretary.

SECTION 2. The Board of Censors shall investigate all complaints of breach of etiquette, or violation of medical ethics, and it shall decide all questions of ethics submitted to it. If any member shall be charged in writing with any violation of the provisions of the Constitution or By-Laws, or with unprofessional conduct, a copy of such charges shall be furnished him, and himself and his accusers cited to appear, when the Board shall proceed to hear the case; reserving its decision to be reported to the Society, when its action may be affirmed by a vote of four-fifths of the members present.

SECTION 3. The Committee on Finance shall superintend all the monetary affairs of the Society, inspect and audit all bills, and the accounts of the Treasurer, and make such an assessment by a pro-rata tax upon the members as shall be necessary for incidental expenses.

SECTION 4. The Committee on Publication, of which the Recording Secretary and Treasurer shall be members, shall prepare, publish, and distribute such of the proceedings, transactions, and memoirs of the Society as shall be selected by the Society for publication; it shall supervise and edit all papers presented to the Society and ordered to be printed, and report its doings at each annual meeting.

SECTION 5. The Executive Committee shall digest

and prepare the business of each meeting, recommend plans for the promotion of the objects of the Society, and in all things protect and superintend its general interests.

SECTION 6. The Board of Censors shall consider and report on the organization of such associations as may have become auxiliary to the State Medical Society, and generally take charge of this department, making at each annual meeting as complete a report as practicable.

SECTION 7. On the first of January of each year, the President of each district or county society shall transmit to the Recording Secretary of this Society a statement of the diseases that have prevailed in his district or county, their type, mode of introduction, mortality, etc., and embody such other medical information as he may be able to obtain. Also, replies to such questions concerning topography, soil, endemic diseases, or other points of medical interest as may have been called for by resolution of the State Medical Society at its previous meeting.

SECTION 8. That the Committee on Credentials be allowed to recommend no applicant for membership unless he show to them his diploma, or a certificate from the secretary of the county medical society to which he belongs, that he possesses the same; in case an application is received from a respectable practitioner subject to no county society, and who presents no diploma, the committee may report the facts of the case and leave his admission to the option of the Society.

SECTION 9. All lengthy reports of standing committees may be read by title by a vote of a majority of members present, and referred to the Committee on Publication, a synopsis of their contents being given by the chairmen of the respective committees.

SECTION 10. No member not present at the meeting at which an election shall be held, shall be eligible to any office except that of Censor, Recording Secretary and Treasurer.

SECTION 11. All motions forming part of the minutes

shall be in writing, and when seconded shall be forwarded to the Secretary's desk for record.

ARTICLE III.

SECTION 1. Any member vacating his membership shall be thereby divested of any right or title to any portion of the funds or other property of the Society.

SECTION 2. Every member on admission shall pay the sum of three dollars as an initiation fee, and sign the Constitution and the By-Laws; nor shall he be entitled to the rights of membership until the same is done. The name of any member of this Society failing to pay his annual dues for a period of two years, after due notice from the Treasurer, shall be stricken from the rolls, and such person shall be no longer a member of this Society, unless by a two-thirds vote of the members he be re-instated, upon the full payment of all past dues.

SECTION 3. All vacancies shall be filled *ad interim* by the President.

SECTION 4. The operation of these By-Laws may be suspended by a three-fourths vote at any regular meeting, and they may be repealed or amended by a unanimous vote at any regular meeting; but if there be any objections, said proposed repeal or amendment shall lie over for action at the next annual meeting, when it may be adopted by a two-thirds vote.

SECTION 5. Rules of order and all questions arising upon the same, shall be determined by parliamentary usage.

SECTION 6. Order of business.

1st.—Call to order by the President, or in his absence by one of the Vice Presidents, or in the absence of all these officers, by a President elected to serve *pro tempore.*

2d.—Report of Committee on Arrangements.

3d.—Calling the Roll.

4th.—Reading the Minutes of the last meeting.

5th.—Business requiring early attention of the Society.

6th.—President's Address.

7th.—Reports of Standing Committees.

8th.—Regular Essay.

9th.—Reports of Correspondence.

10th.—Report of Delegates to the American Medical Association.

11th.—Reports of Special Committees.

12th.—Written Communications on Medical Subjects.

13th.—Oral Communications.

14th.—Selection of place for next Meeting of the Society.

15th.—Election of Officers and their Installation.

16th.—Unfinished and Miscellaneous Business, including Announcement of Committees.

17th.—Adjournment.

Any change in the foregoing order of business can be made by the vote of a majority of the members present.

ARTICLE IV.

SECTION 1. This Society adopts as part of its regulations the Code of Ethics of the American Medical Association.

LIST OF MEMBERS.

A. W. Abbott, Minneapolis..
E. J. Abbott, Saint Paul.
C. P. Adams, Hastings.
J. W Andrews, Marshall.
Clara E. Atkinson, Saint Paul.
Francis Atwood, Saint Paul.
I. H. Ashton, Saint Paul.
Otis Ayer, Le Sueur.
William Baldwin, Saint Paul.
R. D. Barber, Worthington.
C. K. Bartlett, Saint Peter.
J. Bedient, Kasson.
Charles Berry, New Ulm.
E. B. Bigelow, Owatonna.
H. P. Birmingham, Saint Paul.
Ira Bishop, Mapleton.
Ira N. Bishop, Heron Lake.
F. E. Bissell, Litchfield.
F. A. Blackmer, Albert Lea.
A. Blitz, Minneapolis.
S. Blood, Owatonna.
C. H. Boardman, Saint Paul.
J. E. Bowers, Rochester.
D. F. Brooks, Minneiska.
J. C. Brubaker, Waseca.
A. M. Burnham, Albert Lea.
C. Carli, Stillwater.
E. P. Case, Waterville.
T. J Catlin. Saint Peter.
T. C. Clark, Stillwater.
J. M. Cole, Winona.
D. B. Collins, Saint Peter.
A. T. Conly, Cannon Falls.
C. O. Cooley, Madelia.
H. L. Coon, Northfield.
F. W. Cram, Jordan.
E. C. Cross, Rochester.
D. S. Cummings, Waseca.
A. W. Daniels, Saint Peter.
C. E. Dampier, Crookston.
James Davenport, Saint Paul.
E. J. Davis, Mankato.
David Day, Saint Paul.
F. Dedolph, Saint Paul.
L. P. Dodge, Farmington.
J. A. DuBois, Saint Paul.
J. H. Dunn, Shakopee.
F. A. Dunsmoor, Minneapolis.
G. W. Emery, Minneapolis.
O. J. Evans, Minneapolis.
T. H. Evarts, Rushford.
J. E. Finch, Hastings.
J. C. Fitch, Hastings.
S. D. Flagg, Saint Paul.
W. D. Flinn, Redwood Falls.
J. F. Force, Heron Lake.
H. W. Foster, Minneapolis.
G. F. French, Minneapolis.
William Frisbie, Mankato.
W. W. Furber, Cottage Grove.
J. R. M. Gaskill, Marine Mills.
A. W. Giddings, Anoka.
A. O. Gilman, Saint Cloud.
Edith M. Gould, Saint Paul.
B. F. Graham, Minneapolis.
G. W. Greaves, Glencoe.
C. A. Green, Windom.
C. Gronwald, Norway.
H. C. Grover, Rushford.
A. Guernon, Little Falls.
M. Hagan, Saint Paul.
T. W. Hammond, Montgomery
S. F. Hance, Minneapolis.
D. W. Hand, Saint Paul.
H. S. Hersey, Stillwater.
C. N. Hewitt, Red Wing.
Charles Hill, Pine Island.
R. J. Hill, Minneapolis.
W. M. Hollister, Austin.
Mary G. Hood, Minneapolis.
E. F. Horst, Saint Paul.
J. W. Houston, Marshall.
J. P. Humes, Winnebago City.
D W. Hunt, Fairmount.
M. V. Hunt, Waseca.
E. A. Hutchins, Minneapolis.
L. D. Jackson, Grand Meadow.
William Jacoby, Mankato.
J. H. James, Saint Peter.
J. P. Johnson, Blooming Prairie.
Philo E. Jones, Red Wing.
Talbot Jones, Saint Paul.

W. A. Jones, Saint Peter.
G. H. Keith, Minneapolis.
V. P. Kennedy, Litchfield.
H. H. Kimball, Minneapolis.
John Kurtz, Moorhead.
Daniel Leasure, Saint Paul.
F. Lessing, Winona.
W. L. Lincoln, Wabasha.
A. H. Lindley, Minneapolis.
S. H. Lindley, Minneapolis.
Q A. Low, Wabasha.
A. Macdonald, Saint Paul.
T. T. Mann, Saint Paul.
T. M. Marcellus, Sleepy Eye.
Brewer Mattocks, Faribault.
W. W. Mayo, Rochester.
C. F. McComb, Rush City.
S. C. McCormick, Duluth.
J. B. McGaughey, Winona.
F. McGuire, Blue Earth City.
H. L. McKinstry, Zumbrota.
J. C. McMahan, Janesville.
W. R. McMahan, Mankato.
O. H. McMichael, Vernon Centre.
R. S. McMurdy, Minneapolis.
G. F. Merrill, Saint Peter.
M. Mickelson, Delavan.
P. H. Millard, Stillwater.
Winthrop Miller, Minneapolis.
F. H. Milligan, Wabasha.
J. B. Moffett, Minneapolis.
G. R. Maloney, Belle Plaine.
G. O Moore, Worthington.
R. L. Moore, Spring Valley.
A. Mueller, New Ulm.
H. Mueller, Madelia.
L. H. Munger, Eyota.
A. J. Murdock, Taylor's Falls.
J. H. Murphy, Saint Paul.
A. Ortman, Saint Paul.
Jay Owens, Saint Paul.
W. T. Parker, Saint Paul.
R. Parkin, Minnesota Lake.
John Pearson, Minneapolis.
C. E. Persons, Marshall.
E. Phillipps, Minneapolis.
W. H. Pratt, Stillwater.
Harriet E. Preston, Saint Paul.
J. F. Preston, Minneapolis.
T. F. Quinby, Minneapolis.
J. A. Quinn, Saint Paul.
C. N. Raymond, Red Wing.
J. C. Rhodes, Stillwater.
W. Richeson, Saint Paul.
C. E. Riggs, Saint Paul.
A. F. Ritchie, Duluth.
F. M. Rose, Faribault.
J. C. Rosser, Brainerd.
A. P. Rounsevell, Delano.
A. E. Senkler, Saint Paul.
S. B. Sheardown, Stockton.
T. W. Sheardown, Stillwater.
C. J. Slagle, Winnebago City.
C. E. Smith, Saint Paul.
F. R. Smith, Saint Paul.
V. Smith, Duluth.
L. B. Sperry, Northfield.
S. P. Squires, Austin.
Franklin Staples, Winona.
A. H. Steen, Cottage Grove.
D. A. Stewart, Winona.
J. H. Stewart, Saint Paul.
A. W. Stinchfield, Eyota.
E. H. Stockton, Minneapolis.
A. J. Stone, Saint Paul.
J. J. Stone, Wabasha.
Daniel Straw, Wells.
W. M. Sweney, Red Wing.
W. W. Sweney, Red Wing.
N. F. Tefft, Plainview.
C. M. Thompson, Northfield.
W. Thorne, Hastings.
J E. Tibbits, Cannon Falls.
C. W. Tinker, Stewart.
G. W Townsend, Minneapolis.
W. H. Twiford, Geneva.
J. N. Vale, Homer.
G. Vivian, Alexandria.
Kee Wakefield, Hutchinson.
S. S. Walbank, Duluth.
H. R. Wedel, Winona.
A. C. Wedge, Albert Lea.
A. Wharton, Saint Paul.
J. M. Wheat, Leonora.
C. A. Wheaton, Saint Paul,
H. M. Wheeler, Northfield.
N. K. Whittemore, Elk River.
G. W. Wood, Faribault.
M. E. Woodling, Minneapolis.
F. R. Woodard, Claremont.
H. J. Young, Waseca.

HONORARY MEMBERS.

S. Thayer, Burlington, Vt.
Otis Hoyt, Hudson, Wis.
W. F. Lewis, Mankato.
J. B. Griswold, Grand Rapids, Mich
E. C. Dudley, Chicago, Ill.
J. C. LeBlond, Sioux Falls, D. T.
A. B. Stewart, Santa Rosa, Cal.

DECEASED MEMBERS.

A. E. Ames, Minneapolis.
E. T. Bingham, Medford.
Perry Chance, Delano.
W. W. Clark, Mankato.
F. B. Etheridge, Hastings.
P. J. Goodhue, Saint Paul.
S. D. Grant, Watertown.
H. C. Hand, Saint Paul.
A. B. Hawley, Red Wing.
N. B. Hill, Minneapolis.
J. C. Jones, Mankato.
G. M. Lambert, Stillwater.
F. Lawson, Osseo.
C. Lord, Shakopee.
H. McMahon, Sauk Rapids.
P. McKeon, Minneapolis.
H. F. Noyes, Stillwater.
W. K. Perrine, Minneapolis.
J. B. Phillips, Saint Paul.
T. R. Potts, Saint Paul.
J. K. Reiner, Stillwater.
W. H. H. Richardson, Winona.
E. H. Smith, Saint Paul.
J. S. Sprague, Hastings.
W. J. Sloan, U. S. A.
S. F. Stoddard, Lake Crystal.
J. L. Wakefield, Shakopee.
Samuel Willey, Saint Paul.

DECEMBER 30, 1881.

The Publication Committee deem it due both to the Society and to themselves to say, in explanation of the late appearance of the Transactions, and of the absence of the list of committees, that after waiting for three months they received no reply to their repeated requests for the list in question, and were finally compelled to issue the volume without it.

TRANSACTIONS

—OF THE—

MINNESOTA

State Medical Society.

1882.

ST. PAUL:
H. M. SMYTH PRINTING CO.
1882.

Officers of the Society.

President:
P. H. MILLARD, M. D.

First Vice-President:
A. H. LINDLEY, M. D.

Second Vice-President:
S. C. McCORMICK, M. D.

Third Vice-President:
CHARLES BERRY, M. D.

Treasurer:
S. B. SHEARDOWN, M. D.

Recording Secretary:
C. H. BOARDMAN, M. D.

Corresponding Secretary:
W. A. JONES, M. D.

CENSORS.

For Three Years: C. F. McComb, M. D.
J. B. McGaughey, M. D.

For Two Years: C. A. Wheaton, M. D.
Daniel Leasure, M. D.

For One Year: A. W. Giddings, M. D.
William Jacoby, M. D.

TRANSACTIONS

OF THE

FOURTEENTH ANNUAL MEETING

OF THE

MINNESOTA STATE MEDICAL SOCIETY.

MINUTES.

The Society met at 9 A. M., on Tuesday, June 6th, 1882, in Sherman Hall, St. Paul.

The Session was opened with prayer by the Rev. Dr. Conn.

After the roll call, Drs. Wedge, Sweney and McMurdy were appointed a committee upon credentials, to receive new members.

The Executive Committee reported through their Chairman, Dr. Leasure, and the report was accepted.

Dr. B. F. Crummer was welcomed as a delegate from the Illinois State Medical Society.

On motion, Dr. T. A. Foster, of Maine, was invited to take part in the deliberations of the Society.

The resignation of Dr. Hersey as a member of the

Society, and as one of its Censors, was accepted; he having removed to another State.

The President then delivered the annual address; after which, on motion, the regular order of business was suspended, and the reports of the Committees on Necrology and Climatology were presented and referred to the Publication Committee.

On motion, all reports were then read by title and referred to the Publication Committee.

Dr. Millard invited the Society to attend the reception tendered by Hon. D. M. Sabin and the citizens of Stillwater to the American Medical Association; the invitation was accepted, and a vote of thanks moved and adopted.

A communication from the Hennepin County Society, relating to the presidency of the State Society, was referred to the Publication Committee.

On motion, the Society proceeded to elect its officers for the coming year, with the following result:

President, - - -	P. H. MILLARD.
First Vice-President, - -	A. H. LINDLEY.
Second Vice-President, -	S. C. MCCORMICK.
Third Vice-President, - -	CHARLES BERRY.
Treasurer, - - -	S. B. SHEARDOWN.
Recording Secretary, - -	C. H. BOARDMAN.
Corresponding Secretary, -	W. A. JONES.
Censors for Three Years, - -	C. F. MCCOMB.
	J. B. MCGAUGHEY.
Censors for Two Years, -	C. A. WHEATON.

(*Vice* H. S. HERSEY, resigned.)

Dr. Millard, on being conducted to the chair, expressed his sense of the honor conferred upon him, and thanked the Society for the compliment implied in his election.

The Committee on Credentials reported as qualified for membership:

C. R. Kellam, Heron Lake, - - - - - - Dartmouth, 1868.
C. L. Scoboria, Elk River, - - - - - - - Harvard, 1880.
J. R. Howes, Brainerd, - - - - - - Ohio Med. Coll., 1875.
W. Greaves, Northfield, - - - - - - - Ann Arbor, 1870.
E. A. Holmes, Oronoco, - - - - - Chicago Med. Coll., 1880.
A. W. Parson, Brainerd, - - - - - - - Harvard, 1882.
J. M. Bell, Minneapolis, - - - - - - Ohio Med. Coll., 1876.
J. W. Murray, Minneapolis, - - - - - - - Bowdoin, 1847.
J. A. Simons, Saint Paul, - - - - - - Richmond Med. Coll.
H. G. Murdock, Granite Falls, - - - - - Rush Med. Coll.
W. A. Vincent, Rochester, - - - - - Rush Med. Coll., 1881.
G. A. Stevenson, Fulda, - - - - - - - Keokuk, 1880.
F. H. Wellcome, Granite Falls, - - - - Rush Med. Coll., 1879.
A. B. Cochrane, Saint Paul, - - - - - Minn. Med. Coll., 1882.
H. S. Hill, Owatonna, - - - - - - Rush Med. Coll., 1869.
J. J. Everhard, Kasson, - - - - - - Rush Med. Coll., 1856.
L. C. Mitchell, Minneapolis,
Charles Dolan, Waterville, - - - - - - - Iowa Univ.
Geo. Leininger, Red Wing, - - - - - Worcester, Ohio, 1831.
J. S. Whilldin, Saint Paul, - - - - - Univ. of Pa., 1861.
Geo. Newlands, - - - - - - - - - - - Ontario, 1878.
A. W. Parsons, - - - - - - - - - - - - Harvard.
P. J. Shillock, Saint Paul, - - - - - - Univ. of N. Y., 1882.
C. B. Witherle, Saint Paul, - - - - - - Harvard, 1881.
Samuel Keith, Minneapolis, - - - - - Univ. of N. Y., 1854.
E. S. Spencer, Saint Paul, - - - - - - Minn. Coll., 1882.
F. E. Towers, Minneapolis, - - - - - Univ. of N. Y., 1875.
O. S. Chapman, Minneapolis, - - - - Ohio Med. Coll., 1865.
A. B. Cates, Minneapolis, - - - - - - - Harvard, 1880.
W. H. Byford, Jr., Minneapolis, - - - - - - Chicago, 1882.
H. A. Horton, Minneapolis, - - - - - - - Rush, 1872.
Lizzie R. Wass, Minneapolis, - - - - - - Chicago, 1882.
Annie T. Wass, Minneapolis, - - - - - - Chicago, 1882.
A. H. Hedderly, Minneapolis, - - - - - - Indianapolis.
J. R. Freeman, Morris.
—— Heenan, Morris, - - - - - - - - - Univ. of Pa.
Thos. McDavitt, Winona, - - - - - - - Chicago, 1879.
C. N. Clark, Saint Charles, - - - - - - - Buffalo, 1865.
H. P. Johnson, Houston, - - - - - - - - Rush, 1879.
E. A. Holmes, Oronoco, - - - - - - - - Chicago, 1880.
R. O. Craig, Janesville, - - - - - - - - - Albany, 1855.
S. S. Wentworth, Minneapolis, - - - - - Dartmouth, 1862.
C. L. Wells, Minneapolis, - - Coll. of Phys. and Surg., N. Y.
W. H. Powell, Murdock, - - - Coll. of Phys. and Surg., N. Y.

C. W. Drew, Minneapolis,	Univ. of Vt., 1880.
E. T. Chilton, Howard Lake,	Miami, 1874.
H. J. Burwash, Minneapolis,	McGill, 1878.
Ida Clarke, Minneapolis,	Phila., 1878.
Bruno Jaehrig, Red Wing,	Ann Arbor, 1865.
F. O. Sherwin, Duluth,	Rush, 1878.
M. H. Manson, Shakopee,	Bowdoin, 1863.
J. A. Macdonald, Chaska,	Keokuk, 1857.
J. A. E. Spaulding, Luverne,	Jefferson, 1874.
W. Dodge, Henderson,	Keokuk, 1874.
W. P. Watson, Saint Paul,	Bellevue.
A. K. Norton, Detroit,	Chicago, 1872.

On motion, those recommended by the committee, were elected members of the Society, and Dr. J. W. Reed, of Lime Springs, Iowa, was admitted to honorary membership.

A vote of thanks was tendered to the retiring President, Dr. Hewitt, for the energy and ability displayed in the discharge of his duties.

The Treasurer presented the following report:

S. B. SHEARDOWN, *in account with the*

MINNESOTA STATE MEDICAL SOCIETY.

		Dr.
To amount in treasury from 1881		$179 77
"	for initiations and certificates	110 00
"	annual dues for 1881	210 00
"	delinquent dues	86 00
		$585 77
		Cr.
By amount paid	H. M. Smyth & Co.	$315 00
" "	C. H. Boardman	3 50
" "	Talbot Jones	3 72
" "	E. J. Abbott	4 50
" "	P. H. Millard	3 50
" "	Pioneer Press Co.	7 50
" "	C. H. Boardman	10 00
" "	Janitor	5 00
" "	Postage and Stationery	6 00
"	on hand	227 05
		$585 77

June 6th, 1882.

S. B. SHEARDOWN,
Treasurer Minnesota State Medical Society.

On motion, the report having been audited, it was accepted.

The Committees for the coming year were appointed, as follows:

EXECUTIVE COMMITTEE:

H. H. KIMBALL, *Chairman.*

A. Wharton,
A. W. Abbott,
F. A. Dunsmoor,
W. H. Pratt.

COMMITTEE ON PRACTICAL MEDICINE.

D. A. STEWART, *Chairman.*

A. W. Abbott,
J. E. Bowers,
J. W. Andrews,
E. J. Davis.

COMMITTEE ON SURGERY.

C. A. WHEATON, *Chairman.*

G. W. Wood,
F. A. Dunsmoor,
R. L. Moore,
J. C. Rosser.

COMMITTEE ON OBSTETRICS.

W. L. LINCOLN, *Chairman.*

Ida Clark,
F. C. Clark,
W. H. Byford, Jr.,
W. H. Hollister.

COMMITTEE ON EPIDEMICS, HYGIENE AND CLIMATOLOGY.

J. C. ROSSER, *Chairman.*

Winthrop Miller,
W. Frisbie,
C. Gronwald,
C. N. Hewitt.

COMMITTEE ON FINANCE.

H. S. HILL, *Chairman.*

H. J. Burwash,
F. H. Wellcome,
J. S. Whilldin,
F. O. Sherwin.

COMMITTEE ON NECROLOGY.

D. W. HAND, *Chairman.*

E. J. Davis,
A. W. Stinchfield,
S. S. Wallbank,
W. W. Stratton.

COMMITTEE ON PUBLICATION.

E. J. ABBOTT, *Chairman.*

C. E. Riggs.
C. H. Boardman,
C. B. Witherle,
S. B. Sheardown.

COMMITTEE ON NERVOUS DISEASES.

TALBOT JONES, *Chairman.*

J. H. Dunn,
C. E. Riggs,
A. H. Steen,
W. Jacoby,
G. F. Merrill,
W. Greaves.

COMMITTEE ON GYNÆCOLOGY.

A. J. STONE, *Chairman.*

G. F. French,
F. M. Rose,
F. McGuire,
Clara E. Atkinson,
W. W. Mayo,
J. C. Brubaker,
F. Lessing,
N. K. Whittemore.

COMMITTEE ON DISEASES OF CHILDREN.

JAY OWENS, *Chairman.*

C. G. Slagle,
Clara E. Atkinson,
H. F. Hoyt,
J. H. Dunn,
C. L. Wells,
R. L. Moore,
Ida Clark,
Ira N. Bishop.

COMMITTEE ON MATERIA MEDICA.

C. G. SLAGLE, *Chairman.*

T. F. Quinby,
W. Frisbie,
D. A. Stewart,
James Davenport.

COMMITTEE ON OPHTHALMOLOGY.

A. BLITZ, *Chairman.*

B. F. Graham,
Carl Schulin.

COMMITTEE ON MEDICAL EDUCATION.

C. N. HEWITT, *Chairman.*

R. S. McMurdy,
A. T. Conley,
W. L. Lincoln,
J. B. McGaughey.

COMMITTEE ON MEDICAL JURISPRUDENCE.

A. C. FAIRBAIRN, *Chairman.*

Franklin Staples,
A. F. Ritchie,
W. A. Vincent,
C. H. Boardman.

ESSAYIST.

C. E. RIGGS.

ALTERNATE.

F. C. CLARK.

As delegates to the American Medical Association, there were appointed:

A. W. Daniels,
Mary G. Hood,
A. W. Abbott,
G. H. Knight,
J. H. Dunn,
A. F. Ritchie,
R. D. Barber,
J. B. McGaughey,
W. H. Pratt,
J. E. Bowers,
C. E. Riggs,
W. Jacoby,
H. G. Murdock,
H. J. Burwash,
A. K. Norton,
F. Lessing,
A. T. Conley,
S. W. McEwan,
S. P. Squires,
F. H. Wellcome,
L. P. Dodge,
W. L. Beebe,
G. F. Merritt,
H. J. Hill,
M. V. Hunt.

The Society then adjourned, to meet in Minneapolis at 10 A. M., upon the third Tuesday of June, 1883.

C. H. BOARDMAN,
Secretary.

PRESIDENT'S ADDRESS.

THE PROBLEM OF MEDICINE AS A PROFESSION AND PRACTICAL ART.

Gentlemen of the Minnesota State Medical Society:

In preparing the discourse which, as your President, it is my duty to deliver at this time, I could not avoid, if I had been so disposed, the consideration of the living and pressing problems which are stirring to new life, or vexing and disturbing the minds of every one who hears me. Awaking these to renewed energy, by the healthy necessity for vigorous and cautious action, and worrying those, who, in ours as in other of the learned professions, prefer the quiet routine of daily occupation, and the dull level of "let alone."

These last do take an occasional decorous "spurt" on their own hobbies in their own time and place; but they dread the rude jar to feelings and to temper, and the rough trial of strength, which are sure to accompany the shock of attack, and the necessity for defense, when truth is in question—in the press, or in deliberative assemblies. I can safely assume that the majority of this Society clearly understand that such a discussion is inevitable in the near future, and will come to the study which I have to propose, in the spirit of an honest and manly determination to find what is the duty clearly before us, and then, in the same spirit, perform it.

The present position of medicine, both as a profession and an art, is the resultant of long continued and far reaching influences. Some of them date from the earliest period of its history.

It is not merely a poetic fancy which finds in the works of all classes of men an infancy, a youth, and a maturity, in natural sequence, of ability to be and to do.

In this country for more than twenty years, our profession has had opportunity in quiet and glorious work, free from marked unrest and in partial repose, to gather strength and wisdom for the inevitable forward movement. For a few years this period has been a sort of postlude to work already done, but we are now hearing the prelude to the new activity which is already begun.

Professions, like the individuals who compose them, are in some sort the creatures of their environment, but the touchstone and test of their capacity is oftenest found in their ability and disposition to confront and control in the interest of truth, the obstacles which block the way they may select to follow to that goal.

It is well to remember too, that up to this time our profession has been able to preserve to a marked degree a unity both in aim and method. It is, and in the future as in the past, ought to be distinctly American. We cannot admit a standard peculiar to east or west, north or south. We must in our own interest maintain a union as perfect and entire as that which constitutes the political bond of our people and our States. I am proud to claim for our Society such a stand on the common professional platform of American medicine. The interior organization of the profession in Minnesota is about that of the Eastern States from which so many of our members came.

There are two pretty well defined classes, the general and the consulting practitioners. Beside this natural subdivision, (in the sense here held, the last is but an addendum of the first, consultation is added to general practice),

we have here as elsewhere a special class, at present small but growing, who devote themselves from their graduation to the cultivation of what are called "specialties." It is likely to increase in number and variety, and to make positive and serious inroads, not merely upon the business of the general practitioner, but upon his professional reputation as well.

I do not propose to discuss the advantages claimed for this subdivision of professional thought and work. For good or bad it is a recognized department of professional labor; but it is noted here as having a direct bearing upon the subjects which have been selected for this discourse.

The education of our members is that of the average. Not all or even the numerical majority of medical colleges are what they profess to be in requirements for diplomas, so that we have Doctors of Medicine, who, bearing the title, are unfitted by education and study for the place they fill, and the common standard is below what we all would select.

There have been very few, if any, occcasions, before the present one, for concerted action as a professionl body, and it remains, therefore, to be seen what our behaviour under the test will be.

We are, and ought to be, a conservative body. That, as representatives of a learned profession we cannot avoid. It is by slow growth, gradual and often halting, that the profession has come to that stage where such organizations as characterize American medicine have been possible. But while our movements must be deliberate and well considered, it is in no sense necessary that they should be hesitating or vacillating, nor should we begin, or carry on necessary discussions in the heat of angry debate, or by crimination and recrimination as to motives, on the part of those who have an equal right to unsuspected and untramelled thought and action with ourselves.

No matter how scientific our treatment of professional

relation, or chivalric our intentions as respects character and honor, and the like necessary elements, in the problem before us, it is worth while to remember that medicine is a practical art, as well as a learned profession. It is accorded to but few to be able as Dr. Roosa of New York was to "wait until the period had passed when it "was of pecuniary account to him whether he should con-"sult with irregulars (homœopathic) or not before he "uttered a word on the subject." The great majority of Doctors of Medicine are compelled to take an earlier position as a matter of necessity. The relation of the profession to bread and butter is with them as important a matter as is his trade or business with other self-supporting men. No class of educated men keep this view in stricter subordination to the most elevated standard of conduct than physicians, still it cannot be overlooked as a powerful influence upon the conduct even of the most ardent advocates of the strictly æsthetic side of our relations or our work.

The ideal professional life which all of us once dreamed of, and hoped to realize, and which we still hope for, in inverse proportion to our experience, would be with our present surroundings a very curious one. Materialized into fact, it would surely be as various as the dreamers themselves.

This is evident from the beliefs of some who uphold the code of ethics to-day.

Looked at from any standpoint, the problem of professional conduct for the physician is a very difficult and complex one.

The difficulty begins with the honest and faithful student who, enthused by the stately ethics of his professors, discovers the considerable difference between profession and practice when he begins the work of his art. And it is just as great a difficulty to us who find the struggle for support, for competence, for reputation, for individual

or professional advancement as bitter, unrelenting and wearying as any other human pursuit.

In one respect it is more so than the average, because we are bound by a traditional policy as well as a written code, popularly and professionally. It is well to remember that in our heart of hearts we glory in the elevation and nobility of our standards; in the long line of our professional ancestry; and the future of which we believe we at times catch a glimpse.

But with all this there is the bitter consciousness of an unrest and discontent, on the part of some, among whom are those whom it would be the height of folly to call dishonest or mean. Refer to your own individual knowledge of the evidence that there are elements at work all around you which make the regulation of professional relation more difficult, and which strain the fragile bonds holding us, in a legal sense, almost to bursting in more ways than one.

But from *all* these causes and from others which suggest themselves to the thoughtful, are coming the controversies and changes which are of absorbing interest to-day, not so much in themselves as in what they portend. It is a misfortune that there seems more regard for a class of physicians, than for the mass, in some of the attacks upon our peace. In others, and I fear with very many, it is our national characteristics appearing on a professional rather than a political field. With others there seems evidence of a hasty generalization from premises of which it is difficult to get at the truth. And from the complications so introduced it becomes more difficult to get the controversy upon a plane where it will interest and engage those most deeply concerned, because vastly in the majority—the average general practitioners. The abstract ethics and æsthetics to this matter may to advantage be postponed till later.

For these and other reasons which will readily occur to one interested in the matter, I have chosen to approach

and study my subject, "The Problem of Medicine as a Profession and as a Practical Art to-day," as nearly as I can in the spirit and interest of the average of physicians.

We are its servants and in some sense its masters, too. Servants, in that we are the dispensors of whatever of good the art affords and the recipients of pay therefor. Masters, in that as students and builders we are in a degree the founders and architects of the profession of the future. Ours, in common with others recognizing education as essential, is in varying ways suffering the attack of the iconoclasts—the image breakers—of our time. They exhibit a persistence, both within and without our ranks, which betokens earnest and hearty work.

While as usual the motive is oftenest questionable both as to expediency and honesty, it is not always so. But let that be as it may, this will surely happen, there will come profound changes in the relations of physicians to each other and to the "irregulars" around them—to the people who are the clients of both, and of medicine as a profession and a practical art, to other departments of human effort.

No one should be better aware of the impending dangers and changes than those likely to be most seriously affected by them in relative rank, in reputation, professional character, and income, and whose life work, if not their life study, is bound up in the result.

In trying to get at a common sense view of the position of the profession in these respects, I believe I am right in taking the standpoint of the average practitioner, because the average—the mean—is the only way of representing the profession as a whole, or its interests as a body.

Representative rank is now claimed for individuals east and west, north and south. The number of schools professing to be representative in medical education is now very large, and the same is true in all departments of our literature.

But the great truth remains to-day as ever, that the master is not the representative of any school or sect, but he who by his successes and his failures alike; by his breadth of culture and his personal discipline, *proves* that he is a leader in the advance of medicine, either as a science or an art, increasing knowledge and ways by which others may travel the road he has "blazed" before them, and opened for their use.

The problem of medical education is not how such an one may advance, but how the average student may be best fitted for the work before him and may be directed to the end of his practice, in the attainment of the greatest good of which he is capable. Medical education to-day, as always, is of two kinds—or rather of two methods. By the example and personal instruction of preceptors and books in the office, and by lectures and class clinical instruction in college.

Twenty-five years ago it was the rule for young men to study their profession in the office and under the direction of a preceptor, an active general practicioner, and after two or three years of such work, more or less thorough, according to the ability and disposition of preceptor and pupil, to go to college, hear lectures, attend clinics, dissect and graduate.

The standard of literary attainment was not lower than the average to-day, and though colleges have increased in number, have enlarged their facilities, and diversified the subjects of study, have increased the period of study, and in some cases the kind and amount of preliminary and final examination, the advance in solid results is not at all proportionate to the apparent effort. Let the fault lie where it may, this statement is the simple truth.

In the practice of our art we are confronted by other claimants to the rank and dignity of Doctors of Medicine. Among them are many educated in our own schools, who have gone over to the opposition. They have availed

themselves of our literature, our traditions, our experiences, in many cases of our therapeutics, and yet make claim to have outgrown our old-time superstititions and dogmas, as a science, and our hide-bound adherence to ancient methods of practice. They claim in direct opposition to "old school" folly and conservatism, to have opened up new truths and struck out new paths of advantage to the people and to themselves. Others there are who make like claim with no other qualification than average honesty and a fair proportion of native wit and tact. And lastly comes a class who to the instincts of the vulture add the morality and cunning of a devil. To these classes of what we know as irregular practicioners there has been afforded a large popular support. Among ourselves the boundary line between regular and irregular practice and also as respects those who are not affilated with us, is defined by code and resolution.

There can be no question that our present position is (chiefly from influences within our own ranks) one of doubt and difficulty. The safest course, and the only one worthy of a great profession, is to review that position as respects the normal standard of medicine in its best and truest sense, and this is only to be done by comparing the standards of our schools as evinced by their examinations for admission, and for graduation, with the recognized standards of the profession itself. These last are not merely literary or scholastic, they are beside, such as are demanded by our own environment, and by the conditions under which our practical exercise of medicine as an art mus tbe accomplished. One of those conditions, and a very important one, is that we meet to the fullest extent the demands upon medicine as an agent of the first importance in the great work of civilization, of helping to educe from the forces of the organic and inorganic world the materials and methods which can be used to the best advantage for the elevation, life and happiness of man.

Now the code of ethics is an attempt to co-ordinate the members of the profession among themselves and the profession as a science and an art, with the work of other professions and arts to this common end, under its influence, as embodying in a common creed, the aims and means of its work. Medicine in America has in the last twenty years made a decided advance in the direction indicated. From a guild having no other end than the advantage and wealth of its members, it has become a noble profession and a liberal and benificent art. It has allied itself and its members with every effort for human improvement, physical and intellectual as well. More and more is its boundary extending, until in its highest and best development it is second to but one other profession among men. If medicine has suffered from the constraints of its self-imposed bond of union in this country it rests with the advocates of change to show how and where the evil has occurred, and to suggest the remedy. The general profession recognizes imperfections in the code. It is the work of fallible men for fallible men. It has set up no standard of excellence higher than the ideal which all true physicians have set up for themselves. It is after all but a modification of the recognized principle of human action, to do as you would be done by. That standard is too high for the invariable attainment of the best of men, but it can be safely assumed that it is not too high to be the aspiration of the weakest or the goal of the strongest among us.

Of one thing we can rest assured, we cannot let go that standard till a better one is *proven* to exist to take its place. As a profession we need some common standard, not an ideal one, but a written one, and we cannot afford to cut loose from this one, however imperfect, till it is evident it cannot be adapted fairly well to our present needs.

So far this has not been done. In any event no change

should be made which places the general practitioner on a lower plane of recognized character or ability than any class of the profession. Nor should any change be made which shall admit to the ranks of a profession resting as ours does on the basis of a sufficient general and professional education, any one who claims on any other ground, the title, or the consideration which belongs to a Doctor of Medicine.

The code of ethics is not an unchangeable one, but there is one right and many wroug ways of attempting a change. The right way is an appeal by respectful petition to the only body having the power to make a change, the American Medical Asssociation, the representative of our common profession in this country.

The right of appeal is indisputable, and any subordinate organization which makes it will be met in the spirit of a frank and manly disposition to do any and everything which will further the interests of the profession. Any other method of attempting a change in the code will provoke a controversy which cannot but be very far removed from the calm, just, and deliberate spirit in which such a proposition, properly made, should be received and considered.

Let us not forget that in the effort to maintain and improve our standards we have better work to do than is involved even in the important matter of our relations among ourselves or to the other practicioners of medicine. The claims of every human pursuit are to be tested, not so much by profession as by actual work, and it is by that standard that our profession must rise higher or go lower as a practical art.

None deny that medical education should be founded on a sufficient preliminary education, yet we are almost as far from securing it as ever. The attempt to insist upon such an education as is afforded by the average high school or literary college has failed, and, in many respects it must

do so, because it lacks some of the essentials of such an education as a medical student ought to have.

It is a satisfaction to know that with elective studies, afforded by some of the colleges, this difficulty is fairly met. The reports of the American Medical Association have gone over this ground so often and the medical colleges have so far failed of anything like unanimity in the attempt to encourage the effort among themselves, that the profession itself is called upon to make the attempt in some other way.

But it is met at the outset by the lack of legal power to compel obedience, and by the antagonism of interests offered to any such control.

I think it most likely that a way will be found out of our difficulties as respects preliminary education and the examination for degrees by the adoption of measures similar in intent to that now endorsed by the medical society of the State of New York, and, I believe, by other States, which is to transfer to Boards of Examiners appointed by the Regents of the University the determination of the fitness of candidates for degrees. A very strong argument in favor of such a course is the approval which it receives from some of the representative professors of our best medical colleges. Such men would very gladly be relieved of the burthen of examination for degrees, and appreciate fully the opportunity which such a method would afford, to the schools, to demonstrate the excellence of their work, before a competent and disinterested faculty, having no other function than the examination of candidates for such degrees.

But it is charged further that the medical education which the profession would enforce, even under such conditions, is intended rather to fit graduates to deal with existing disease, in the way of cure or palliation, than to prevent it, and that by so much modern medicine, as an

art, is behind the position which modern science has opened to it.

Is there any foundation for the charge?

I need not enlarge before this Society upon the advantages of Public Health, for it has done more to make preventive medicine a practical department of our art and a living force among our population than all other professions or forces in the State.

Ten years ago you petitioned for and secured the organization of a State Board of Health, the third in this country. It began its work with little other support than this society gave. From that day to this there has been a constantly increasing interest in sanitary work among medical men in Minnesota, and whatever popular interest has been awakened, and systemetic effort made, our profession has been at the front.

All this is true, and yet we, as a profession, have not begun to do the work which in this direction we are bound to do.

As compared with other States, Minnesota is very favorably situated in this respect. We have no old "cut-and-dried" precedents, "mort mains," so to speak, to embarass and hamper advance in public hygiene. We have little legislation which should be repealed. There are very few businesses harmful to public health so firmly established that they cannot be easily rendered harmless with as much advantage to the owners as to the people.

Our population are willing and ready to be guided, but there is lacking the necessary attention to the study and every day use of practical hygene by a large proportion of medical men. It is here that we are deficient. What is needed to-day is the inclination on the part of general practitioners to act as the Doctors—the teachers (we should never forget this lesson of our very title) of sanitary truth in every family in our State. How easy of accom-

plishment and how important in results! It will be possible then to find physicians competent and willing to act as the legal heads and directors of our Boards of Health, which for want of just such guidance are too often utterly incompetent for the important duties assigned to them by our present laws. Let me say that in emergencies I have found medical men co-operating heartily with the State and local Boards of Health. But they do not co-operate as they should, by bringing their personal knowledge and practical skill to the disagreeable task of urging local authorities to use their abundant powers for the prevention of disease and the preservation of health *in the commonplace*, but very essential, duty of looking after the nuisances which infect our common air and water supply. And yet no one knows so well as the physician that the majority of our deaths find their causes there.

Now, gentlemen, by this neglect we are losing the very oportunity which is freely afforded us to restore to medicine a function than which there is none more important at this time in its history.

Whether we lead or follow one thing is certain, the popular interest in hygiene is increasing at a very rapid rate among all classes of people, and it is finding its advocates among those who mould public opinion into acts and laws. Like all other great movements, this one for longer life, less sickness; for fewer premature deaths, and a healthier and better physical life, is pushed on and even attempted to be led, by a great variety of people. Like many another good thing, too, it has its ardent enthusiasts who presage the millennium as the certain consequence of its success.

Among its supporters there are those who believe that its public work should constitute the study and field for practice of a special class, medical and scientific, and for that class the favorite title is "sanitary expert."

They look forward to the time when to this class of

specially educated men shall be entrusted the answer to all the sanitary questions which may arise in country, city and State, and the execution of all sanitary work. There are already symptoms of a peculiar nomenclature, and, if I may so express it, a special pathology and therapeutics. This is the tendency of much of the public health effort of the day.

As a consequence we have, more in public health than in medicine, dreaming enthusiasts, positive theorists, one-sided men, who rival Don Quixote in their aims and methods, to whom the practical difficulties, which delay and bother the practical workers, offer no obstacle whatever. They are fluent writers and active proponents of "resolutions." They are great at organization of societies or of work, but greater yet in schemes which they embody in "Legislative Acts."

Law, precise in definition, penalty and liberal appropriation of funds, is an essential preliminary to their work. It almost appears that they would compel men to be healthy in the way legally set before them "on penalty of fine, imprisonment, or both." But seriously, there is a party among men devoted to public hygiene, whose ideal of what they call "sanitary administration" finds its realization in legislation. They pride themselves on the universality of their aims, and methods, to be enforced by national and international legislation as well.

They profess that no adequate success in the control of infectious diseases, for example, is possible in this country, except by national control backed by national funds.

It is but fair to say that in opposition to this party is another who are strongly opposed to any such view of public health, and who are practically demonstrating the truth of their creed by their works.

The time has come when the medical profession should gravely consider how it stands in this matter. Are you willing, even by implication, to surrender to any special

class of men, even if physicians, this most important of your functions, the prevention of disease and the preservation of health?

It is already assumed by a class of sanitarians that physicians, the general practitioners of our art, are ignorant and indifferent in sanitary matters, and that you have already practically surrendered hygiene as not the duty of the family physician at all, and that you are not bounden to use your knowledge of disease in the effort to ward it off from the persons or families who look to you for the performance of your entire duty to them. It is gravely urged that the duties of a health officer are inconsistent with general practice; and further, that the work of a health officer is so complicated and difficult as to require a special and peculiar training which the physician does not need, and therefore has no object to acquire.

The whole matter may be summed up in the statement that the effort is apparent in many ways to differentiate hygiene from medicine, and to erect it into an independent science and art.

In contradistinction to this view it is well to remember that never, even before the revival of learning, has medicine lost sight of the preventive side of her work, and all along history, either as individuals or as a body, her professors have left the evidence of their efforts in this direction.

Many seem to forget that as a practical art medicine has of necessity been moulded, in means and methods, by the age in which and the people to which she ministered. The revival began with her, as with her sister professions, soon after the middle age, and it has not stopped from that time to the present. The quacks are engaged in testing drugs by the wholesale, by a process of *reductio ad absurdun* by advertising. It is really one method of popular education via stomach, purse and

suffering body, which will ultimately convert the victims —the people—into judges. Evidence of this disposition is encouragingly frequent, and is already finding expression in attempts at regulating medical practice by law.

With ourselves some of the traditional bonds of our art are loosening as we stretch out in the new directions in which opportunity for work is afforded. We are all feeling new life and new impulses, and it would be a very wise man who could tell the end.

In the matter of preventive medicine our history in the past and our work in the present gives us a few settled principles as guides to conduct.

Starting with the self-evident truth that it is wiser and better to prevent disease than to await its attack before attempting to control, we come to the next truth, that by education and daily experience the general practitioner should be the first to recognize the dangers to health incidental to individual and family life, and the most competent to meet them. That it is the highest and noblest function of our art to be able to do so.

That no party or sect outside, or a special order in the profession, will be permitted to wrench from the general practitioner this function.

That as was said of specie payment, to resume this function the profession have simply to resume.

That practical hygiene as a science or an art is a department of medicine, and always has been.

That the family physician, able and willing to do this duty, is the unit of sanitary administration, and should be the health officer in the truest sense of every individual and family to whom he has to administer the consolations of his art.

That public health officers should come from this class, and always be allied with them in practice and experience.

That a knowledge of disease based upon such famil-

iarity as is afforded in the general practice of medicine is an essential prerequisite to the work of a public health officer.

Now think for a moment what this brief summary of the duty of preventive medicine implies. We are living in a time wonderful in all history for its achievements and its failures. I need not recall its successes; they are the staple of congratulation and encouragement to the school boy as to the man. A less pleasant duty but a necessary one for physicians is to study the other side of the matter, for which the material is only too abundant.

Never before has man been subjected to such a trial of his powers or his endurance. Once this trial was a divided one. Few men had to meet more than a small and intermittent share of it. Now it is more concentrated. Education, not merely scholastic, but that of their environment, has lifted the mass of men on to a plane where not the muscular system alone but the brain and the whole nervous system are submitted to unaccustomed strain. Mind, the master, sharpened and made more active, is now the worker even with the laboring man. He thinks not merely of wage and of the life which it permits, but how to better both. The ideals of betterment are as various as the thinkers. Capital and labor, so often in opposition, are so now, and the conflict is a very irritating one. Business is no longer the grave and sedate transaction of bargains, but the hurried and feverish working of great results, with the bustle and crash of momentous action. Pecuniary wealth and the luxury it affords are more and more the ambition of all classes.

Our family and social, our political, and even our religious lives are made to feel this restless, never-satisfied craving for change, and the foundations of all these lives are in some ways changing. Science and art have brought to aid the movement the forces of the inorganic world as never before.

But beneath all this advance, real and apparent, close to the sources from which all powers spring, are the old problems of pauperism, crime, social depravity, bad faith, bad thought, bad deed—problems which are the skeletons at the feast of the sensuous devotee of pleasure, but the spurs to better work, for their amelioration, to honest, thoughtful, men and women.

That the average man and woman feel all this, and are striving against evil in some way, is the evidence of individual and associated work against crime and for prevention of crime, against intemperance, for the care of the defenseless, to restore the fallen and care for the destitute, in Masonic and other relief associations, for life, accident and fire insurance, by our societies for the protection of animals, our associations for political reform, from the socialist club to the great political party, all these and more striving in divers ways on right or wrong roads, under good or bad principles, with an enthusiasm born of christian principle or instigated by the arch enemy of mankind, to straighten crooked paths, and to bring either a material, a moral or a religious millenium to the world.

Since time began, I suppose, at least since we have history of it, this hydra-headed effort to change the old for the new, has been a fact in the personal, family, social and national life of man.

As doctors of medicine we look at the tremendous struggle and the momentous bearing thereof from a peculiar standpoint. As a philanthropic profession we study its causes and effects for the sole purpose of learning what our art can do to prevent evil and secure good, or if evil happen, to diminish its force and save the victim. What a belittling of our noble work it is, therefore, to think or act as if, as a profession, we could contract our work or belie our aim, by making our duty to consist solely in dealing with effects and neglecting the harder, but nobler, duty of searching out and removing, the causes

of the ailments, of brain and body, for which we have to prescribe. It *is* a great thing to benumb pain, but a greater to prevent. It is a noble ambition and a lofty success to postpone death by the restraint of a constitutional taint, but it is nobler to root out that taint and to prevent its local manifestation. To treat a fever and to save its victims is good, but to prevent a fever is better. It is a duty to care for and relieve all suffering, but it is a higher duty to ward it off, or to lighten the blow when it must come. With the greatest success possible we are painfully aware that fevers will occur, and the resources of our practice and surgery will always be in demand to deal with evil which has come; still I should insult your intelligence did I not claim that a prouder record for medicine is to be found in the preventive side of its work.

Now the practical problem of our profession as an art to-day is summed up for us, as a representative body, in two questions and their answers:

1st. How shall the profession revive its functions as a teacher of health and guardian against disease?

2d. How shall we best guard the admission to practice or, in full accord with modern truth and freedom, to limit the degree of doctor of medicine in such a way as shall guarantee to the people, at least thorough preparation, for the work it is intended to secure?

To the first question I answer: Resume. Let every physician learn to look upon himself as the health officer of every family who look to him as their physician, and let him begin, in himself and his own family, to make them so far as in him lies, ensamples of what a healthy life should be.

This is the very first step and the essential step for us who have passed rightly or wrongly to our degree. Our title "doctor" is a standing and perpetual protest against our present methods.

You will pardon me if with the experience which ten

years as the executive officer of your missionary board in this direction, (the State Board of Health), I speak positively on this subject. I know whereof I affirm when I say that it is the easiest change possible, and doubly so because it is right, and you will find your clients your willing aids in this direction. In no other way can you demonstrate the truths, which I am sure we all agree to lie at the foundation of medicine as a practical philanthropic art.

Our profession as a body, or as individuals, can no longer hold aloof from participation in the efforts now so abundant, for a better and higher family and social life for our people. As teachers of what is essential to health of body and mind in all the relations by which that health is affected, we must study and have positive opinions about the influences having so vital a relation to them. This step involves no thought or act unworthy of a thoughtful and conscientious physician. To do right in other matters does not involve the behavior and tastes of a demagogue, no more here. We have bright examples among us of just such men. You all know them. If a considerable proportion of educated men will come up to the effort, they will be the leaven who shall leaven us all to higher aims and nobler lives, and our glorious art to the rank and place waiting for her as an essential aid to a purer, higher, longer, and better, life for man.

To the second question, involving the education of medical students and the conferring of degrees, I venture to believe that a solution only awaits the serious and well considered action of the medical profession for Minnesota.

My time is already far spent, and you will pardon me if I throw what I have to suggest now, into the form of propositions for your consideration.

1st. We want a recognized standard of preliminary education. For this the profession should, through such societies as ours expressing its will, make a strenuous

effort. The means of evasion of any standard are so easy on the part of teaching bodies as colleges, that with our present facilities but little progress is possible in this direction. The efforts of well intentioned colleges, even of extended reputation, are standing failures and proofs that the real root of the difficulty has not been reached. The insufficiency of existing provisions to guarantee a careful, thorough and impartial examination of the claims of applicants for degrees is too evident to need further proof.

The literature of the subject in the transactions of the American Medical, of State and other associations, would fill volumes, and their dreary beating, over and over, of the same facts is weary reading.

The essential difficulty is easily stated. It is the permitting medical schools, teaching faculties, to examine their own students, to sit in judgment on their fitness for degrees. In the spirited rivalry existing among our best schools there was enough of danger, but now add to that the great number of less reputable schools, whose degree has the same legal value, and the temptations which such rivalry engenders, and the evils it works, are only too evident.

The honest effort to raise standards and increase knowledge is practically negatived for any but the very few thoroughly competent students who will spare neither time, labor, or money, to prepare for their degrees. Honest professors, in numerous schools, are trying to do something, but for the mass, they fail.

The profession has no legal power in any of its organizations to compel. It has tried every other expedient to no purpose. Hope of a national organization or national legislation is useless, simply because such matters as this, like sanitary legislation, are in the power of the individual States alone, where, under our present form of government, they will remain.

It is through education, in the long run, that the best result will be achieved, but we need not wait so long for a great and thoroughly practical step in advance, in individual States. That the people are anxious is evident by the legislation respecting sanitary matters, and in some States, *eg*. Illinois, New York, in the regulation of medical practice.

In our own State there is practical unanimity as to the direction of this effort, and I believe that we can secure a faculty in the University of Minnesota whose character shall be of the highest, whose function shall be solely that of examining candidates for medical degrees, and whose standards shall be what they ought to be as enforcing the desire of all true physicians, that none shall receive the degrees in medicine who are not fitted in every necessary respect, which such examination can determine, for the honor, only to be won, in that way.

My study of this matter has been a long one, and I firmly believe that such a faculty is the first step to the solution, not only of the questions of a high standard of attainment and of a competent and disinterested examining body, but also, of a great variety of important questions respecting the relative rank of medicine as a science and art; the relations of doctors of medicine among themselves and to the public; the regulation and exposure of quackery in its various forms, and the recognition of preventive medicine as a part of the physician's work.

Shall there be repeated here the acknowledged mistakes of eastern schools, a teaching and examining faculty in one, or the double-head monstrosities of Michigan and Iowa?

Why will you not unite with those of us who have already begun the effort, and ask of the Regents that the medical faculty be selected for their recognized and demonstrated ability in their respective departments; that they be instructed to prepare plans of study, preliminary

and professional; to try by written, oral and clinical examination all candidates for the degrees in medicine of the University, and that they classify the results so as to do justice to all, and to each, in every department of professional knowledge required by the highest existing standards of such qualifications, and that they recommend none for degrees who do not come up to such standards, and to the demands of the profession and the times?

We can, in this way, lead the advance by careful and cautious, but at the same time intelligent and judicious action. In no way can we better show that ours is not a cramped and narrow sect in medicine, unable to expand to and meet the needs of our time, devoted to the defense of dogmas rather than the whole truth, and an honest share in the world's work.

Ours is a great profession, not for one time, but for all time, assimilating into and making a part of itself, all truth, and all lovers of truth, as related to our work. Founded on man's need and Science's provision therefor, we have no fear that that truth can destroy what is good, in substituting new truth for old error, new ways for less valuable old ways. We ought and must be liberal to this extent. We must, while agreeing in essentials, permit disagreement in non-essentials; proving all things and holding fast only that which is good. No other course is open to us. Change, radical, searching, and in some sense destructive, is before our existing organizations. Let each one carefully study and work out his own course and his duty to the profession as a body.

I have but outlined one phase of this, to us, momentous subject, but I am sure have shown evidence of the duty which is plainly before us.

In conclusion I offer no apology for the subject matter, the methods, or the length of my discourse. I should

be evading the plain duty you have assigned me if I had chosen a less important and more agreeable topic.

In the presence of impending discussion or possible change in cherished methods, the only course is to look the matter calmly in the face and prepare to do the work which it may occasion.

The trial of medicine as a practical art is to go on under new conditions in some respects, but not in all. We seek to test it as a work administered by educated men and women. We can afford to seek the trial of honest, faithful work. Its reward is as sure for associated as for individual workers, not less in the stirring effort to get to higher levels of thought and endeavor, than in the daily routine practice of the art.

The problem before us is not a personal or pecuniary one, or one in the solution of which any unworthy motive should rule. It is simply this: Will we stagnate in utter indifference to our present environment of difficulty and danger, or will we, out of these very difficulties, wring a noble success, and compel recognition as a profession whose only ambition is to do rightly the duty before us; whose aim is the longest, strongest, happiest, and most faithful life for every man, woman and child to whom we may minister prevention or cure.

Never forget, gentlemen and ladies, alike, that we are ministers of an art ennobled by the Master Himself, and by a long line of illustrious workers, men and women too, than whom no profession can boast more, or more worthy.

DISEASES OF CHILDREN.

COMMITTEE—MARY G. HOOD, M. D.; CLARA E. ATKINSON, M. D.; HARRIET E. PRESTON, M. D.

Mr. President, Gentlemen and Ladies:

We have the honor of calling your attention to a branch of medical science whose importance has been for the past few years rapidly growing upon the profession, and which seems to us, who have perhaps a little fuller insight into the minor points which make up the life of a child, a very serious one, viz.: The hygiene and care of infants in their relation to gastro-intestinal disease.

We are sorry to be obliged to open with an apology, yet we feel it is due the Society because of the meagerness of a report which might be so full and interesting; but we must plead the brief time allotted for its preparation, and the difficulty of getting facts from notes of private practice to support and prove the more theoretical laws of hygiene.

Your committee sent out circulars to the members of the Society, suggesting some items upon which they asked information and notes of cases; to which we received twenty-two replies from the following gentlemen, which we most gratefully acknowledge:

Drs. C. H. Boardman, D. W. Hand, J. H. Dunn, D. W. Stuart, J. B. McGaughey, J. J. Stone, Jay Owens,

Talbot Jones, F. A. Dunsmore, E. C. Cross, H. L. Coon, L. H. Munger, C. M. Berry, C. E. Dampier, A. C. Wedge, Brewer Mattocks, W. W. Sweney, W. L. Lincoln, L. P. Dodge, C. K. Bartlett, S. B. Sperry, R. L. Moore.

From these reports we draw the following brief conclusions:

The gastro-intestinal diseases of infancy are found in every district reported. According to the State mortality statistics, collated by our worthy president, 44.55 per cent. of all deaths are of children under the age of five years, and of these intestinal diseases carry off as many as the two dreaded diseases, scarlet fever and diphtheria. The relative frequency in city and country cannot be accurately stated for lack of statistics. But the fact is well established that city life gives a large increase over the country; the difference, however, is not so great as between the larger cities of the East and their surrounding country, due, no doubt, to the fact that there is less crowding in our cities, and more neglect of hygienic rules among the country population, who are largely foreigners, ignorant of all laws of health.

The etiology of this great mortality is found in a high temperature, above 70° F., rapid evaporation, stagnant and impure air, improper food or food improperly prepared and administered, too much or too little clothing, lack of cleanliness, etc., combined with hereditary and developmental influences.

The remedy proposed is not so much trying with medicine to combat the evil effects as to remove the cause and place the child under normal conditions by improving the hygiene of the nursery, or, where this cannot be attained, by removing to a change of air and diet.

One of the greatest drawbacks to recovery of the sick infant is found in the inexperience, neglect, ignorance, or superstitious regard for "old wives' fables" of the nurse or mother. Chiefly among the lower classes it is true,

but often the radical hygienic views of the day are fearfully or incompletely carried out even by the better classes, while inexperience or inefficiency make many directions of the physicians useless.

WM. W. SWENEY, M. D.: With regard to the question referring to infantile diarrhœa, its exaggeration cholera infantum, or its after consequences dysentery, meningeal disease and cerebral effusion, we will have to answer that for the past two or three years there have been but few cases, compared with other years, the mortality not exceeding 6 per cent. In other years, and they were too frequent to be exceptional, we saw a great deal of the disease, and the mortality was often as high as 20 per cent. in the yearly prevalence.

The etiology is due to bad hygiene, with the superadded causes induced by a protracted heated term, involving frequent showers, speedy evaporation of moisture and a stagnant atmosphere. But even here take away all that may be properly included in "the bad hygienic life of the child" and the disease would have a minimum prevalence and a vastly diminished mortality.

Attention to hygienic details is greatly of more importance than medication as commonly understood. We think, however, that this attention *is preventive* medication, corrective medication; all other administration is to cure results induced by a neglect of, at the right time, proper treatment, preventive and corrective.

For residents of cities and towns we recommend a change, more particularly in such localities as there is or likely to be noxious exhalations, or impediment to a free atmospheric circulation. These same rules will apply to a country residence. There is, in some families, a peculiarity of organization, which is evinced in young children, by a tendency to cerebral irritation in the course of any infantile illness, or even by the slightest impropriety

of ingesta. Great care is especially called for here: an elevated, airy situation is eminently proper, supplemented with the most scrupulous hygienic requirements; all these precautions are absolutely necessary with the diathesis noted. We know that this is true, so true that parents now have well grown, healthy children whose existence is due to the observance of advice in accordance with what we have above stated. A non-observance, through lack of knowledge, had, in a number of cases, consigned from two to four of the first born to an early grave.

The interference to recovery is in proportion to the qualifications, or lack of them, of those having the charge of children. Medication is of little avail unless the executive element in treatment is competent. The physician is often "actively useless" without his knowing it, from the incompetency of nurses.

We cannot speak of this to our own satisfaction because we only know of errors in nursing by what we see, guess at or are told of; the *unknown* element is as importantly necessary to a proper understanding and treatment of disease as was to the ancients the unknown spiritual element in their religious belief.

We find there are some particulars which we have failed to give, and we will now answer them by asking questions; our own bias will be manifest:

Does the mental condition of the nursing mother affect the child deriving nourishment from her? Has the physical condition (not debility alone) of the mother, from overheating, improper food and other causes, during lactation, any influence on the health of her offspring? What kind of food, and how much, should be given to children when fevered from any cause, or when the stomach is in an acid condition? Should a child be allowed to nurse or take an equivalent of *milk* food when the conditions above enumerated are present? Does the eagerness of a child to nurse, when fevered, express a

desire for food? How much food do adults crave when in similar conditions, and for what particular ingesta is desire manifested? Finally—Is cold water allowable in such cases?

DR. L. P. DODGE: Intestinal diseases of children may often be traced to deficient ventilation of the sleeping apartment during the heated season, and lack of clothing, subjecting the child to sudden atmospheric changes. The practice of parents letting their children go with unclad limbs, nay more of the person, especially in early autumn, cannot be too severely condemned by the medical profession. Another cause is improperly prepared as well as indigestible food. Many parents and physicians prohibit children from eating fruit, whereas fresh ripe fruit will frequently restore the child to health. Under the head of improper food I wish to class milk which is obtained from cows fed on *slop*, wheat bran and screenings, etc.

W. L. LINCOLN, M. D.: While gastro-intestinal diseases are frequent in excessively hot summers, I have the impression that the frequency is not comparable with the rate in larger cities, and less favored localities in the State. The proportion of fatal cases is very small. The etiology might properly be attributed to any hygienic law disobeyed, sometimes to several combined, but my own impression is, that it is what goes into the mouth that produces the mischief in the main. The change of a patient from a badly ventilated room to one better ventilated and bathed in sunlight is a sanitary measure which should never be neglected. A diet of hot milk, not boiled, and exclusion of all other nutriment is a prime factor in the restoration to health.

L. H. MUNGER, M. D., of Fair Haven, considers intestinal diseases among children very infrequent and esti-

mates the percentage of fatalities at one per cent. He says that poor ventilation, improper food and clothing, want of cleanliness, etc., are the principal factors in its genesis. He says, "I often recommend change of diet and air in the proper ventilation of the sick room. It is often not possible to have recommendations in such matters heeded. I find a very general lack of good nursing among those who have the care of the sick. In some cases this is the result of inexperience and can be remedied. In many cases, however, there is so much heedlessness that proper care cannot be had for the patients, and recovery is thus often delayed.

A. C. WEDGE, M. D., Albert Lea: We hardly ever have a fatal case here except in children from four to eight months old. If the child has its natural food with proper hygienic surroundings, it will most always get well. But if it has artificial food, poor ventilation, etc., the chances are slim. Dirty bottles and mixed food will kill more children than diphtheria.

SUMMER HYGIENE FOR CHILDREN.

It is an important thought, well sustained by practical observation, that children are more susceptible to unhygienic living than adults. The food which they take and the air they breathe, with all their changes and deteriorations, not only enter and impress a more delicately organized and sensitive structure, but they perform the more important work of building new tissue as well as repairing old, and the building must be to a great extent what the material which is put into it makes it. It is essential then to the strongest growth of the child, that its surroundings be the best attainable in health, and how much more in sickness.

If public hygiene is necessary, family hygiene is more

so, and many of the better class of mothers are waking up to the fact. They eagerly read all that reaches them on this subject; they catch at any suggestion from the family physician, and yet they are deplorably ignorant of the needs of their children, and how to supply them. A steam engine needs the care of a skilled workman, but any one without skill or preparation can take care of a baby. This should be reversed, and inasmuch as one is more intricate and complex than the other, so does it need more skill in its handling.

Mothers need to be taught how to care for a child as carefully as they are tutored in Latin or mathematics, in painting or sewing: If the mothers have no time the girls have, and it should enter the course of every high school and college as much as commercial mathematics enters the preparation of a business man. Not a few scattered lessons on "physiology," but a theoretical training in nursing, in all its branches, and also how to bear and rear children. If this is woman's life-work why not prepare her for it?

The etiology of the gastro-enteric diseases of infancy is no doubt complex. The high temperature of the summer months can scarcely be the sole cause, for while the temperature may be as high in the country, the death rate is not so great as in the city. Again the nursling and the artificially fed child are both subjected to the same heat, but the latter class furnishes far more victims than the former. Yet high temperature is probably a prime factor in the causation: directly on account of the depressing effect upon the partially developed nervous system, but perhaps more indirectly by its agency in effecting putrefactive changes, thus lading the air with impurities. It also hastens the decomposition of artificial food, a fact which may account for much of the fatality among bottle-fed children. How can we in some degree make the heat innoxious in its direct effects upon the system? Keep

the house cool and airy, let it be built with a good old-fashioned garret to serve as a nonconductor of the heat of the roof, and a good supply of doors and windows, so situated as to get the best drafts. Let there be free use of cool water and ice in cool drinks and baths. Nature craves cool drinks, and the cooler the more desirable; why then not allow nature to be our teacher and give them; certainly they will do something toward modifying the effects of the heat. I remember one morning being sent for in haste by a frightened mother whose child had been taken with diarrhœa and vomiting after an excessively hot night. Her perturbation was not because of the sickness but because the little one had found a piece of ice and when seen by the mother was eagerly devouring it. When I called the ice had apparently effected a cure and my only suggestion was, more ice. Well children should be bathed twice a day in cool water. Let them take the air in the early morning when the air is fresh, and in the cool of the evening, and during the heat of the day allowed the coolest part of the house.

Again pure air is essential to the health of infants. And by pure air we mean an air free from dust and smoke, untainted by exhalations from man or beast, by the products of combustion and decomposition, and moreover, an air that can move and come in free contact with sunlight. All this may be had in the country by simply opening doors and windows, a step which many are loath to take, particularly with a sick child for fear of its "taking cold," an evil much more likely to befall the well child, than one with fever, where the internal fires reproduce the heat of surface as rapidly as it is cooled by the current of air.

But in a city, even if well drained and cleaned, the air is stagnant and impure from many sources; and if bad outside it is much worse in the children's homes, being contaminated as it often is by the odors of the kitchen,

imperfection in drains, exhalations from soiled linen, etc. The air of the house and sick room should be changed constantly, for though the outside air may not be pure it is better than within and better moving than standing. Also care should be taken to prevent the present air from becoming vitiated. All dejections should be immediately removed, as also soiled linen poultices, etc. The practice of drying diapers in the house is to be condemned, filing the air as it does with ammoniacal vapors, not only unpleasant to the smell and excluding so much of oxygen, but absolutely prejudicial to health. The bedding should be thoroughly dried and sunned daily. Children in health sleep eleven to twelve hours out of twenty-four, that is half of life for the first two years spent in the atmosphere of the bed, and surely it should not be spent in breathing the exhalations of their bodies for days previous. The sick bed should be changed throughout daily and the linen oftener if necessary. The baby should be allowed a crib by itself, and in the most airy part of the room; not tucked away in a corner to swelter and pine and sicken for the lack of good air.

Close in the wake of impure air, or side by side with it comes the food of the child. Wet nursing is the truest food, but when this cannot be supplied what are we to do? The volumes that have been written on the subject show alike its importance, and its nearly insurmountable difficulties. Cow's milk—closest in composition to mother's milk and most readily obtainable, would seem to be the most natural food, and by diluting and adding a little sugar can be made theoretically a very good substitute; but is it so practically, and where does the difficulty lie? Is it not rare that we can find a child in the country who cannot take a good drink of fresh warm milk from the cow that has walked tranquilly in from her green pastures? If the country baby can drink milk, why not the city child? Shall we look for the cause in the milk, the child,

or both? The child's nerve-centers have been partially paralyzed by heat, and digestion rendered insecure by the poison in the amosphere; while in this condition or perhaps after diarrhœa has already set in from indiscretion in diet, we offer our unsuspecting victim a drink of milk, the best we have, true, but still milk that has been taken from cows fed on malt or slop, frequently acid before it leaves the bag, then churned for several hours by the motion of milk carts and railway cars, kept in a refrigerator with all sorts of food, and lastly fed through a bottle with a long rubber tube, which who can say is clean? What wonder if the sensitive stomach of the child detects the lactic acid, molecular changes, and absorption of odors, and either promptly rejects it, or what is far worse, allows it to pass through an undigested and irritating mass. Making such milk fit for assimilation is the study before us. But the better way is surely to either bring the cow to the child, or take the child to the cow. If this cannot be accomplished, and milk from the dairyman must be used, it should be carefully selected with regard to the feeding of the cows, pasturing secured if possible, and delivered early in the morning. Immediately upon its reception it should be diluted sufficiently with boiling water, tested for its alkalinity, and if found neutral or acid, made alkaline with a few drops of saccharated solution of lime. It should then be placed upon ice in an absolutely clean vessel, lightly covered, where contamination with other odors will be impossible. Milk thus treated will generally be found to agree, until other elements conspire to break the spell, when we may have to resort for a time to other diet. In this state of things rennet whey not absolutely clear but with numerous particles of casein that have escaped through the strainer, with a little cream added will often rest the stomach. Sometimes the addition of barley or oatmeal will suffice; and again we must leave all milk and resort to mutton or

veal broth. And here the problem must be solved for each individual case by the tact and watchfulness of the professional adviser. Sometimes a child seems to thrive well on some of the patent foods, but are we quite sure that it does not thrive in spite of them for many of them are preparations of starch in such form as theoretically to be entirely unfit for the stomach of an infant, nor is it probable that the commercial aim in their manufacture would be very tender or humane. But if necessity drives one to a trial of them, Mellin's or the Anglo-Swiss milk food have proved themselves the best, the former having a large proportion of gluten, and the latter being a milk food. Artificial food should, under the age of eighteen months be taken from a bottle and in a nearly sitting posture, in imitation of nature. The bottle must be kept perfectly clean and sweet, and should be used without the rubber tube, which it is almost impossible to keep absolutely clean, and moreover favors the practice of giving the food in the recumbent position, and the bad habit of allowing the child to hold the nipple after the meal is finished.

Another abuse to which the young child is liable is clothing. A case well remembered was a four months old child, who, on a day when the temperature outside of the house was over 80° F., lay close up in one corner of the room well out of all draughts, on a feather pillow, with the ordinary infant's clothing, and in addition two large shawls well wrapped around head and feet. The mother in an adjoining room, the door being open between, was ironing by a hot fire. The little one had been taken a few hours before with cholera infantum; what wonder! The child was immediately removed from the shawls, relieved of its heaviest clothing, laid in front of a window where the wind could blow directly upon it, and with directions to keep the child in the shade out of doors during the daylight, and a simple corrective prescription, in

thirty-six hours there was complete recovery. Children oftener suffer from too much clothing in very warm weather than too little, In the scorching heat one loose, cotton garment, with a strip of very thin flannel over the chest and abdomen is sufficient, and all that should be allowed. The clothing should vary with the day and the hour, in the cool morning and evening more is necessary than in the middle of the day. Summer clothing is apt to be unevenly distributed; the neck and shoulders are covered with a single thickness of linen, while the chest, abdomen and thighs are burdened with several garments and the legs again often left entirely bare.

Clean linen as necessary to the prevention of disease is perhaps more imaginary than real, or certainly would fall last in the list of evils. It may be because the neatness of careful mothers allows less out of door air for fear of the contamination by dirt; but certain it is that the child who as soon as it can sit alone is placed upon the door step, and as soon as it can creep roams around the door-yard, though the skin is often enameled with dirt, shows a healthy appearance and well developed form, which is rare among our tenderest cared for little ones. There may be other elements of heredity, etc., in these robust children of nature, but certainly the contact of abundant pure air and sunlight on the scantily clothed skin, more than balances the effect of dirt, yet children certainly are better as a rule for the daily bath; and to the sick cleanliness of person as well as of clothing and bed linen is indispensable. In short keep a child comfortable and give it free use of the blessings a kind Providence has prepared for it, and we keep it well; if sick, and we return to this rule, we do much toward its recovery.

DR. H. E. PRESTON'S REPORT.

249 West Third Street, May 11, 1882.

Dear Dr. Hood:

I cannot prepare an elaborate article on the diseases incident to childhood, but will give a few conclusions that I have reached as the result of my experience and observation.

I think it is desirable to postpone or avoid exposure of young children to those diseases especially which involve the respiratory organs and throat, as very young children are more likely to suffer severely, and are less easily managed in these complications than those who are older and stronger. Still if the little ones must endure the infliction of these ills, it is as well to pass through them during the first years of life—from seven to ten.

I hope that all contagious and self-limiting diseases will be found amenable to the preventive treatment by vaccination with cultivated germs, that will ensure against each and all of these diseases so fraught with danger to the young.

In some ailments we have remedies that may be relied upon to alleviate and palliate the period of suffering.

Whooping cough has lost its terrors in the hands of the skillful practitioner, and may be limited to very mild and brief form of *coryza*.

The coal tar products, notably cresylene, have almost specific action in whooping cough. Of this last preparation a few drops, from two to six, vaporized by heat and breathed by the patient, gives speedy relief, is easy of application and safe; may be repeated as often as the spasm of coughing returns, but there will not be usually many such returns.

I have had excellent success with a combination of

opium and belladonna, especially when administered according to the following formula:

℞ Morphiæ Acetatis, gr. 1.
Atropiæ " " ¼.
Syr. Simplicis, ℥ 1 m

Dose five to thirty drops once or twice daily, according to the age of the patient and the severity of the disease.

It is a singular fact that only the *acetate* of these alkaloid has this happy effect, in controling the spasm of whooping cough, and cutting short the disease. The minimum dose is most satisfactory, and the only unpleasant effect is the flushing of the face that often follows the use of belladonna. I find the same remedy useful in all cases where there is great sensitiveness of the throat with excessive secretion of mucus.

H. E. PRESTON.

REPORT OF COMMITTEE ON SURGERY.

J. B. M'GAUGHEY, CHAIRMAN.

REPORT OF CASES BY J. B. McGAUGHEY.

COMPOUND COMMINUTED FRACTURE OF LEG-AMPUTATION—PYÆMIA—DEATH.

M. E., German, aged 32 years, on the 8th day of April, 1881, was thrown from a wagon attached to a runaway team. The right foot was caught and firmly engaged in forewheel of wagon between the spokes. In this manner he was dragged for more than two hundred yards, with his head on the ground and striking sidewalk at times, when the foot finally became disengaged. He was at once conveyed to my office, where he was seen by Drs. Stewart, Staples and McDavitt. There was evidence of severe shock. Stimulants and anodynes were administered. Some reaction had taken place when I saw him an hour later. An examination revealed a compound comminuted fracture of tibia and fibula, involving ankle joint with extensive laceration of tissues. There were also numerous contusions of head.

He was placed under the influence of ether, and amputation performed at the lower part of the middle third of the leg. The instruments, sponges, etc., used were thoroughly carbolized. Dressing of carbolized lint cov-

ered with oakum applied. Patient rallied well, and was removed to his residence, a mile distant, four hours later. During next week case progressed most favorably, at least seven-eighths of wound healing by first intention. On the fifteenth of April patient was seized with rigor followed by high fever, quick pulse and violent delirium. The delirium simulated that of delirium tremens. Abscesses formed near wrists, elbows, knee joints and on face. Wound rapidly reopened, allowing bones to protrude. Treatment, other than that to secure rest, availed nothing. Patient sank, and died on the 24th of April, sixteen days after injuries were received.

This patient had suffered some years before from an attack of small-pox, which, in addition to producing much disfiguration from pitting, had greatly impaired his constitution. This case is of interest in illustrating the probable influence of shock in developing this formidable disease.

EMPYEMA—PARACENTESIS THORACIS—DEATH FROM ALBUMINURIA.

Miss J., American, aged 26 years, of slight form and feeble constitution, in the spring of 1881 returned to her home within ten miles of Winona, from Iowa, as she stated, "to die of consumption." On the 13th day of May I was called to see her in order to relieve, if possible, her distressing dyspnœa. Found upon examination one side of pleural cavity filled with liquid quite up to the fourth rib, with decided prominence between the ribs at the lower part of the chest. There was great emaciation and rapid feeble pulse. Paracentesis was advised, and patient placed upon supporting treatment with anodynes for the relief of pain and dyspnœa.

On the 19th of May an aspirator needle of large size was introduced between the seventh and eighth ribs.

Pus not flowing freely, a free incision was made along the upper border of the eighth rib. More than a gallon of thick offensive pus escaped. Patient rallied from effects of operation, and expressed sense of great relief from dyspnœa. The cavity was washed daily through a catheter, with a one per cent. solution of carbolic acid. Tonics were continued. On the second day after operation, immediately following a violent fit of coughing, there was a very profuse discharge of bloody serum from wound, which continued for forty-eight hours. Patient's improvement from first week after operation until late in June was marked and constant. Near the last of June she rode out three miles, and was overtaken by a thunderstorm. She returned home, and soon had a chill, which ushered in pneumonia, from which the lung recovered slowly and imperfectly. A small quantity of pus was daily discharged from wound, which was kept patent.

In July examination of urine revealed presence of a large amount of albumen, with some casts. Failure was gradual from this time until the last of August, when death occurred.

COMPOUND COMMINUTED FRACTURE OF SKULL—REMOVAL OF BONE—RECOVERY.

Early on Sunday morning, the 17th of July, 1881, H., a Swiss farmer, aged 45 years, residing eighteen miles from Winona, in Wisconsin, a few weeks after his arrival in this country attempted the destruction of his entire family, consisting of himself, wife and seven children, using a revolver for this purpose. There was evidence that he emptied his weapon, carefully shooting in the head in each case, sat down at a table, reloaded revolver, which was of an old pattern, with powder and lead, placed caps in position, and proceeded with his desperate work, the last shot being used upon himself.

When accidentally discovered by neighbors, no one having heard shots fired, H. and three children were dead, the wife was breathing, but died in a few minutes, three children were living, with penetrating gun-shot wounds of cranium, and a boy seven years old with an extensive fracture of skull, caused by a blow with a hatchet.

Dr. Hedershide, of Arcadia, Wis., was called and took charge of the cases. On the 19th I was summoned by Dr. H. in consultation in case of the boy, who had sustained the fracture. Arrived about sixty hours after the injuries were received. Found patient delirious, with scalp torn and bones broken in fragments, and driven down upon brain, fracture involving superior part of parietal bone.

Ether was administered to quiet restlessness, and the wound in scalp enlarged, when the detached fragments of bone were carefully removed, leaving an irregular opening in the vault of the cranium three inches in length by two and a half inches in width. There was considerable hemorrhage from a small artery in dura-mater, which was controlled by somewhat prolonged gentle pressure. Wound was closed, and cool carbolized dressings applied.

The effects of the anæsthetic disappeared, and the boy awoke as if from a protracted sleep, and remarked to his Swiss attendant, "It seems to me there is a good deal of shooting about the house to-night."

The patients, under the excellent care of Dr. Hedershide, all made good recoveries.

COMPOUND FRACTURE OF SKULL—TREPHINING—FRACTURE OF HUMERUS—RECOVERY.

W. V. R., a healthy boy aged ten years, on the 11th day of February, 1882, fell from a heavy wagon and sustained a compound fracture of right parietal bone, extending into occipital bone. Wound in scalp three inches in length. Also a fracture of left humerus near shoulder joint. Blood flowed profusely from wound in the head, but the mind was clear. Fracture was attended with considerable depression of bone of skull. An irregular fragment nearly two inches in length by one in width, beveled largely at the expense of the outer table, was driven in and firmly wedged in position. Ether was administered, the trephine applied and button removed, which allowed extraction of the fragment. An oval piece of bone nearly three inches in its long diameter was depressed but not entirely detached. This was carefully restored to position. Wound was closed, fracture of humerus adjusted and secured, and patient placed in bed. Some difficulty was experienced in selecting proper position, owing to injuries existing on right side of head and left shoulder, but a reasonable degree of comfort was secured. During the first week there was a marked increase of temperature, but no delirium. Convalescence was fairly established in three weeks.

This case appears to sustain the propriety of an early operation in such injuries, though the mental faculties may remain clear and the symptoms of compression of the brain may be absent.

REPORT OF C. A. WHEATON, M. D.

My Dear Dr. McGaughey:

The few cases subjoined will, I trust, be deemed of sufficient interest to be incorporated in the report of the "Surgical Committee." They are reported somewhat in detail, but have been made as brief as was consistent with accuracy:

CASE I.

Case 1, in the light of the existing controversy relative to the radical cure of urethral stricture, is, I think, of peculiar interest, affording, as it has, opportunity to examine, *post mortem*, the urethral canal a little more than two and a half months subsequent to internal urethrotomy.

J. S., of Irish birth, 47 years of age, of irregular habits, was admitted to the city hospital Dec. 24th, 1881. Gonorrhœa, 18 years before, was the beginning of his wretchedness. A gleety discharge followed the recovery from the clap, and ended in an obstruction of the canal to such an extent that surgical aid was sought for relief. He had gone through two courses of treatment by gradual dilatation prior to his admission. When admitted to the hospital a filiform whalebone bougie was the largest instrument possible to be introduced into the bladder. Dec. 18th, the patient being under ether, the urethra was explored with bulbous sounds. Three strictures were found to exist. The first, one-half an inch from the meatus, admitting a 24, (French,) the second, four inches from the meatus, admitting a 12, (French,) and the third, five and three-fourths inches, which was permeable to the filiform bougie only. Failing to pass the capillary bougie accompanying my Maisonneuve's urethrotome, I passed a

Gouley's canula staff No. 2, using the whalebone as a guide. There was now no difficulty in introducing Maisonneuve's staff into the bladder. Blade No. 2 of this instrument was slid down the staff, and the constricting bands were divided. A No. 18 English steel sound passed readily into the bladder, but met with slight resistance at the deep strictured portion. An Otis' dilating urethrotome was then introduced, the canal put upon the stretch, and the knife withdrawn, thus dividing completely the offending bands. No further resistance being offered to the 18 sound, a large sized silver catheter with a sigmoid curve was introduced and left in. No hemorrhage resulted. The catheter was left in two days. The patient was up and about the ward on the 23d, five days after the operation. Sounds completely distending the canal were passed at intervals of two days for five sittings, and afterwards weekly until his discharge Jan. 30th.

He was again admitted Feb. 24th with pluro-pneumonia, and died seven days later from perforation of the ileum following intussusception of the gut a little above the ileo-cæcal junction. At the autopsy the bladder and penis were removed entire. On laying open the urethra the membraneous and bulbous portions were found somewhat roughened, and along the floor were the apparent traces of an incision. The canal was not contracted at any point. This examination seems to prove conclusively that a radical cure was effected, and that, had he lived, he would have been spared the lifelong annoyances entailed by gradual dilatation.

I have had occasion to make internal urethrotomy several times, and external without a guide once, during the past year. All have been treated on the Otis plan, and with results so satisfactory that this course will claim my preference for the future.

CASE II—ENCEPHALOID TESTICLE.

Andrew A, aged 42, Swede, came from County Alms House to the City Hospital March 9th, 1882. The patient is demented. He has a square, massive head, a good face, and strong physique, with no cachexial look. He sits quietly, with his eyes directed to the ground, shows some care of person, and is docile and easily managed, except when his peculiar tastes are opposed. He has no recollection of events. He prefers to make his meals from the table refuse, and dislikes to drink from a cup or glass, but if water be given him in a bowl he puts his face into it and drinks like a quadruped. He takes every opportunity to eat and drink his own excrement.

He has had a swelled testicle for two years, and considerable pain for two or three months, paroxysmally, at intervals of several days. The tumor occupied the left side of the scrotum, was about the size of an infant's head, pyriform in shape, not translucent, heavy, tense, and with an indistinct sense of fluctuation. The spermatic cord was not involved, and there was no hernial impulse. The testicle could not be defined in the general enlargement. On tapping the growth with a hypodermic syringe at its lower anterior aspect a small quantity of bloody serum was withdrawn. ' A diagnosis of probable hæmatocele was made. It was thought that by a removal of the growth an improvement in his general intelligence might be effected. On March 12th an incision was made along the median line of the tumor. On dividing the much-thickened *tunica vaginalis* at its upper part, a gush of pale straw-colored fluid followed the entrance of the knife. On enlarging the wound a cavity was found capable of holding some six ounces of fluid. The growth itself was homogeneous in structure, moderately firm in density, and of a white, lardaceous appearance. Its character being now determined as unquestionably malig-

nant, the whole mass was enucleated. This was easily done, there being but few adhesions between the parietal and visceral layers of the vaginal tunic. The cord was controlled by Stohrer's clamp shield until its vessels were ligated, when it was allowed to contract within the inguinal canal. The application of five ligatures and seven sutures completed the operation, and a carbolized dressing was applied. The sutures were removed on the fifth day and the ligatures on the twelfth. He was up and about the ward on the thirteenth. The poultices which were applied to the wound during the latter part of his confinement he ate when his hands were not tied.

The mass removed, exclusive of the fluid, weighed thirty ounces. When the patient's convalescence was complete his mental condition was unchanged. Microscopical examination of the tumor by Dr. C. B. Witherle, of St. Paul, determined it to be encephaloid.

There are several interesting features attaching to this case: 1st, that it should have attained its enormous size and the patient's appearance not betoken a cancerous cachexia; 2d, that a uniformly smooth contour should have been preserved; 3d, that the growth could have been in existence so long without any obvious involvement of the lymphatics being present; 4th, that the vaginal cavity was preserved, and the tunica albuginea had not given away when subjected to so great pressure; 5th, that in so large an encephaloid testis but one cyst should have presented itself; and lastly, that he should have shown none of the appearances of ill health, have been strong and vigorous, and performing all his bodily functious normally. I can only explain it by assuming that the man's mental obliquity rendered him more brute than human, and in consequence the vital forces were made less susceptible to the ravages of disease.

CASE III.

A. S., a strong and vigorous German, of good habits, was admitted Dec. 20th, 1881, to the city hospital, with a compound fracture of the right leg near the middle. The leg was much swollen and tumid. There was a wound one and one-half inches long just internal to the spine of the tibia, on a level with the fracture, which was very oblique, extending from within outwards and upwards. It was dressed with an apparatus which provided for extension, and still left the limb uncovered above the ankle. Extensive cellulitis, resulting in diffuse suppuration, followed, but notwithstanding early in February union was quite firm, and a Bavarian bandage was applied. He got about on crutches, but on the 20th of February had the misfortune to fall and refracture the leg. An immovable dressing was again applied, but after the lapse of several weeks no attempt at union was apparent. On March 12th, the patient under ether, a sharp-pointed tenotome was introduced opposite the seat of the fracture just external to the crest of the tibia, and the opposed ends and surfaces of the bones immediately contiguous vigorously scarified. The same procedure was gone through with at the inner border of the tibia, and the fibula fracture treated in a similar manner. The skin punctures were covered with adhesive, and the leg placed on a side splint for a few days. No inflammatory trouble supervening, the limb was placed in a silicate of soda dressing, and at this writing our patient has good union and a useful limb.

CASE IV.

M. B., aged 23, American born and of Irish parentage, entered St. Joseph's Hospital Jan. 7th, 1882. About the 20th of the month previous he had sustained a pistol shot wound of the left chest. The weapon producing the injury was a Smith & Wesson, 32 calibre. The wound was in the second intercostal space, about one inch to the left of a point midway between the acromion and the middle of the sternum. I saw him first January 7th, eighteen days after receiving the injury. He said a large quantity of blood was expectorated immediately following the injury, and that he continued to spit blood for several days. Blood and air also escaped from the wound. His breathing was greatly oppressed, and "he thought he was going to die." His condition was considered very precarious by his attendant during ths time he remained at his home in Wisconsin, and when he announced his determination to come to St. Paul for treatment he was told that an abscess was forming in his chest, and that the transit would entail great danger. On his way hither a large quantity of pus was spontaneously evacuated through the wound, and afforded him great relief. I found him anæmic, with a small pulse, hurried breathing, temperature slightly elevated, and sweating profusely. He had an irritating cough, with expectoration usually frothy, at times purulent and bloody. The left chest was hyper-resonant to percussion except under the left clavicle and in the left supra-spinous fossa. The respiration was indistinct over the most dependent portion of the left lung, but grew more and more apparent as the ear approximated the root. Coarse and fine rales were heard all over the breathing area of that side. Some bronchitis existed in the right lung, and the respiratory murmur was much exaggerated. During the coughing paroxysms pus was discharged from the wound at each

inspiration. It was thought best not to make a counter opening so long as pus was freely evacuated from the original outlet, and no evident accumulation taking place. Quinine, carbonate of ammonia and whisky were given, and a nourishing diet ordered. He rapidly improved until the latter part of February, when afternoon hectic, profuse sweating and chilly sensations began to show signs of approaching danger. He was seen by Drs. Smith and Hand in consultation, and a free incision at the most dependent portion of the left lung advised. On March 2d, the man under ether, assisted by Drs. Watson and Witherle, I made an incision just posterior to the axillary line in the seventh intercostal space. The knife was carried well through the costal pleura, but no cavity was apparent, and no pus followed. This wound was thoroughly carbolized and closed, and a second incision made in the fifth intercostal space in about the same line. About six or eight ounces of laudable pus followed this puncture. A good-sized drainage tube was inserted, the cavity washed out with a two per cent. solution of carbolic acid, and the patient put to bed. The pulse failed several times during the operation, and brandy was freely given hypodermically. He rallied slowly, but after a few days seemed to be mending. Shortly, however, he again began to fluctuate. He would feel well and eat with a relish, and then for a day or two lose appetite and suffer with the chills, hectic and sweating. It was evident that drainage was still imperfect, and that aid must be given or the case be left to end in pyæmia. On the 22d of March, patient under ether, assisted by Drs. Witherle, Watson and Spencer, I removed one and one-half inches of the sixth rib. The resection was sub-periosteal, and was accomplished with but slight hemorrhage. The opening admitted the finger, which found the pleural cavity completely obliterated below the wound, explaining why the first incision below the seventh rib had not opened

the abscess. All the pleura within reach of the finger was roughened but not adherent. Considerable pus was discharged following this operation, and in a few days improvement was again apparent. At this writing, April 30th, he is gaining. He has fluctuated much, however, since the resection, and until three or four days ago seemed to be failing. Then a deep abscess was detected beneath the pectoralis major, and an incision just posterior to the anterior axillary fold was followed by a free evacuation of pus. He now seems to be making progress in the right direction.

The result of this case, which now promises favorably but may end in defeat, offers a striking plea for perseverance, as there was a striking improvement after every operation although death seemed imminent each time. My better judgment dictated a counter opening when I first saw him, but I procrastinated, thinking it possibly superfluous, and believing perfect drainage could readily be established if pus should accumulate in sufficient quantity to require it. I am now satisfied that had a drainage tube been introduced January 7th it would have spared him a long illness, and me this enumeration of his misfortunes.

CASE V.

J. F., laborer, American born, aged 30, admitted to City Hospital May 16th, 1881, with a large ragged ulcer, covering about three square inches, to the right of the anus and extending into the gut for about two inches. A second ulcer also presented in front of the anus in the median line, one inch long by three-fourths wide. His trouble began with what was probably an ischio-rectal cellulitis four years before. At that time an abscess formed, spontaneously ruptured but never healed, leaving a small ulcer, which slowly enlarged to the dimensions

described above. His family history was good. He positively denied syphilitic taint, and no evidence could be found on careful examination to refute his testimony. He took 120 grains of iodide of potassium a day for three weeks, with no effect on the disease. Various applications were made, but with negative results. Several physicians saw him in consultation, and all leaned to the belief that it was syphilitic, but after the thorough exhibition of the anti-syphilitic it was thought to be lupus and excision advised, as they were beginning to be quite painful, and hemorrhage was of frequent occurrence from the rectal deposit. On the 21st of October, 1881, he was etherized, and all the diseased tissues removed by the galvano-cautery knife. A Pifford battery was used, and six cells thrown into the circuit. The perineal deposit was first removed by burning through the skin at the margin of the ulcer, then seizing it with the forceps and dissecting it out with the hot knife. No hemorrhage resulted. The larger mass was now attacked in the same manner, and the entire growth removed in one piece. Smart hemorrhage resulted from one vessel which refused to be controlled by the heat. A rectal tampon, wet in carbolized oil and held in position with a T bandage, controlled the hemorrhage. He was given one grain of opium in the evening to restrain the bowels. He had almost no pain. The dressing was removed on the second and the eschar separated on the fourth day without any loss of blood, and on October 31st the wound was granulating nicely. The bowels were moved on the fifth day by an injection. After the removal of the dressing the wound was frequently washed with a four per cent. solution of carbolic acid. He did not suffer pain enough to require an opiate. Granulation rapidly progressed, the perineal wound healing entirely in a short time, and on November 2d he expressed himself as well enough to go to work. About Christmas hoarseness and

a dry cough became annoying. He coughed incessantly, raised but little—sputum watery. January 12th he had a chill, followed by a temperature of 101° and a pulse of 100. Under appropriate treatment this yielded, and he soon became comfortable. Two days after came another chill, and still a day later a third. There was no recurrence of the chills after this time, but his decline dated from the first one. He now became subject to pain in the epigastrium and right hypochondrium, which was increased on coughing. There was tenderness on deep pressure over the epigastrium and ribs of the right side. Vomiting of food was frequently induced by the paroxysms of coughing. Morphia was given in sufficient quantities to relieve pain. The pain became less prominent as a symptom, but the vomiting continued. Iron, quinine, cod liver oil and whisky were freely exhibited. The wound of the rectum filled up, and was covered with a layer of cicatricial tissue. About Jan. 1st this began to break down, forming little ulcers, which united and thus formed a denuded space which extended up into the gut. This was cleansed twice daily and packed with carbolized lint, but refused to heal.

The symptoms of cough, mucous expectoration and vomiting continued with more or less remission. The voice grew hoarser, and by March 16th the aphonia was nearly complete, the patient talking only in whispers. On the 22d of February laryngoscopic examination showed a small papillary growth on the right vocal cord. The vomiting resisted all treatment and continued till death. The cough grew worse, expectoration became free and mucopurulent, nothing in the way of food could be retained, and he died exhausted April 22d.

Autopsy 24 hours after death by Dr. C. B. Witherle: On opening the thorax the right lung was found to be bound down by adhesions apparently recent, extending from the apex to the base. No adhesions on the left

side. On section both lungs were found to be studded with masses varying in size from that of a pin's head to that of a small pea. These were white, hard, and some of them presented evidences of a cheesy degeneration. Purulent fluid exuded freely from the cut ends of the smaller bronchi. The appearances described were present throughout both lungs, but the tubercular (?) masses were somewhat more numerous in the right than in the left lung, and most numerous at the apex of the right. The heart and abdominal organs were normal in appearance. The trachea, larynx, hyoid bone and tongue were removed *en masse*. The trachea and larynx were laid open posteriorly in the median line. There was a deep ulcer on each side of the larynx which involved the tissues of the posterior extremities of the vocal cords, and had destroyed the mucous membrane over the internal surfaces of the arytenoid cartilages, and the greater part of the attachments of the vocal cords to the cartilages. The ulcer on the right side was somewhat larger than that on the left. The edges of the cords and of the ventricular bands were roughened by ulceration. The ventricles of Morgagni and the laryngeal surface of the epiglottis also presented several small superficial ulcerations. The arytenoid cartilages were bare on their internal and part of their anterior surfaces, and the exposed portions were roughened. There was a shallow ulcer nearly as large as a silver three-cent piece on the base of the tongue just outside of the right epiglottic sinus. The whole mucous surface of the larynx was pale in color. The mucous surface of the trachea was reddened in irregular patches, especially anteriorly, but presented no ulcerations.

The above represents the morbid appearances of tubercular laryngitis. By this is understood specific laryngitis accompanying chronic pneumonitis. It is a matter of dispute and doubt whether the laryngeal ulceration is invariably or generally preceded by tubercular deposit in the

same situation. The few laryngoscopic observers who claim to have observed primary tubercle admit that the extent of the subsequent ulceration is entirely disproportionate to the tubercular deposit. Papillary growths on the vocal cords have been observed at different stages of the affection as in the present case. The ulceration usually begins in the side of the larynx corresponding to the lung first affected. In the present case the right side of the larynx and the right lung presented the most extensive lesions.

The foregoing case is the second in the last year and a half where I have amputated the rectum, and where laryngeal disease has rapidly supervened. Such an experience, while it may be only a coincidence, has led me to be somewhat suspicious of such cases, and to fear metastasis, though I am not aware that other operators have had a similar experience.

CASE VI.

J. B., aged 48, married, admitted to City Hospital March 29th, 1882. The prepuce was adherent to the glans, congenitally so, the penis was swollen and reddened, and presented a small ulcer on under side near extremity. March 30th the prepuce was slit up and the glans found partly covered with small papillary growths. A piece of these was snipped off, examine by Dr. C. B. Witherle and pronounced epithelial. The next day, assisted by Dr. Witherle, I amputated the penis about two inches from the extremity with the galvano-cautery ecraseur, the operation being performed without hemorrhage. The pain following the operation was very slight—not sufficient to call for an opiate—and there was no secondary hemorrhage. On the fourteenth day succeeding the operation the slough had entirely separated, and the wound was cicatrizing nicely when the patient eloped.

Within the last year I have had occasion to use the galvano-cautery several times, chiefly for the removal of vascular growths. In these operations the most notable points were the freedom from pain following the operation, and the absence of hemorrhage primary and secondary. There has also been no inconvenience caused by contraction during and following cicatrization.

CASE VII.

Mr. T., German, aged 40, farmer, for six months prior to the 25th of March, 1882, had suffered with a most agonizing sciatica, which was apparently idiopathic. He had been in the hands of many physicians, and had been subjected to nearly every variety of treatment, and finally rested with morphia, and that in large doses, as the only agent which gave any relief. I found the left thigh and buttock marked with traces of extensive vesication, and much atrophy of the lower half of that thigh and leg. Bowels sluggish, tongue furred, no appetite and much debility. He had lost about twenty pounds in weight. The urine did not contain albumen. I ordered a continuance of the morphia, and introduced a seton a little below the point of exit of the left sciatic nerve from the pelvis. When I saw him next, nearly two weeks later, he was not relieved, and he wanted something done that would promise a respite from his torture. That I succeeded in affording him this relief will not be doubted when the recital of the following facts is noted. He was put under ether by my friend Dr. C. B. Witherle, and an incision four inches in length was made midway between the trochanter major and the tuber ischii. The nerve was easily exposed, was found swollen, injected, and much less dense than normal. I then made considerable traction upon it in a direction from the spine toward the

wound, and from the foot toward the wound, and lifted the leg clear of the table twice by its own weight. The wound was then thoroughly carbolized and closed with carbolized cat-gut sutures, and supported by straps of adhesive. The operation was somewhat prolonged, but occupied in all about forty minutes. He rallied well from the anæsthesia, but two hours afterward was suffering as much pain as before. I gave him one-fourth of a grain of morphia hypodermically, and repeated it in about two hours, but without effect, as was reported by the friends who saw me next day. I had to leave my patient to come to the city, but the next morning I learned that about midnight he suddenly became unconscious and died without a struggle. I could get no intelligent description of his condition after I left him, except that he suffered constantly till he died. In stretching I used as much force as I dared, but got no "sensation as of anything giving away." He lived about thirteen hours after the operation. I am at a loss for any explanation as to the cause of death.

The history of this operation dates back only a few years, during which time many cases have been cured, and until very recently it has been spoken of as free from danger so far as life is concerned. I can see no reason why this patient should have died, but the facts above detailed nevertheless seem to point out an obvious cause and a very pronounced effect.

For the reports of the above cases I am indebted to Drs. C. Q. Scoboria and E. C. Spencer.

Very respectfully submitted,

C. A. WHEATON,
Member of Surgical Committee.

MEMORANDA FOR THE COMMITTEE ON SURGERY.

BY C. N. HEWITT, M. D.

Methods best adapted to the closing and healing of Wounds, and the influences which assist, retard or prevent such cure.

Our best artificial methods are such as most nearly approach natural methods, and we are limited to influencing the conditions under which the bodily powers effect the cure.

In accidents involving wounds, cleanse the wound carefully of all extraneous matters, bring surfaces as nearly into natural position as possible, and attempt to close it by sealing it in the patient's blood, covering the open wound with a bit of lint soaked in common tinct. opii, overlaying that with an elastic compress of clean lint, and over all a piece of oiled silk or paper, bandaging with a thin all-wool bandage. Put the injured part into as natural and comfortable a position as possible, and allow this dressing to remain undisturbed for four or five days, unless signs of pain, irritation or swelling should intervene. If they do, uncover only so much as is necessary to get at the cause—usually some fluid—let it out, cleanse the cavity with dilute tinct. opii. thoroughly, and dress as before. This simple method, varied for each case, has served me in many ugly wounds—especially in compound fractures. As to incised wounds, I use light stitches, and lace, supported on either side of the cut by contractile collodion. This dressing is a strong support, and permits the examination of wound or escape of discharges without disturbing the relations of injured parts, or caus-

ing any pain to the patient. Stitches can be removed through it, and I rarely remove it till a cure is effected in such wounds. When possible I use it in lacerated wounds.

For several years I have not used carbolic acid, but instead a saturated solution of boracic acid alone, or in combination with varying proportions of tinct. opii.

The above is my method in all surgical wounds, and my success has been such in securing union by first intention, in abbreviating the duration and severity of necessarily open wounds, as to make me very shy of other methods.

By it I have secured good points in three cases of incised wound, through patella or its ligaments, opening the entire front of knee joint. In four compound fractures union by first intention—two of femur, two of tibia. In five cases of compound fracture and dislocation of ankle joint, I have saved the limb in two cases with considerable loss of bone, but with a useful joint. In one case I have the articulating surfaces of the ankle joint with an inch and a half of tibia, and half an inch of astragalus. There was extensive sloughing of skin, and yet constitutional symptoms were at no time alarming, (though the injury occurred in late spring,) and the patient, a farmer, is able to attend to much of the work of his farm, and walks with comparative ease and no pain.

As to surgical incised wounds, non-union by first intention is the rare exception, even of large wounds. I have never used the Lister method, but have watched its use, as described in the journals and in the practice of some of my professional friends.

There are two or three practical points worth mention:

1st. *Wounds should be gently and thoroughly cleansed before closing*, whether made by accident or design. My rule, for more than twenty years, has been to sponge out

with dilute tinct. opii. and a weak solution of carbolic acid. For the last three years I have used the saturated solution of boracic acid, alone or with tinct. opii.

2d. After dressing, wounded parts should be firmly and carefully supported as nearly as possible as the tissues were in health. As being elastic and adjustable, I use a thin all-wool bandage, and find great help in this direction from the use of contractile collodion and lace instead of adhesive plaster of any kind, which I do not use. The lace and collodion serve me in all wounds where adhesive plaster is used.

In parts healed but needing graduated and prolonged support, the perforated rubber plaster is the best.

In varicose ulcers of the leg, lace, collodion and the perforated elastic rubber bandage make up about all my apparatus. I have a case nearly well of twelve years standing, with large and hard ulcers, in which two months of this treatment has been an almost perfect success.

The principles underlying the treatment of wounds are very simple:

1st. Restore the part to its natural relation, or as near as possible.

2d. Close up external wounds as perfectly as possible.

3d. In any wound make secondary opening no larger than is necessary to meet the conditions which compel its use.

4th. Give all wounded tissues as nearly as possible the support which is naturally theirs in health, and make that support as elastic as possible.

5th. Always attend to pain, unusual tenderness, or irritation, local or systemic, promptly, and do not suppress these symptoms by opium or other anodyne until you *know* there is no other way.

REPORT OF CASES BY F. A. DUNSMOOR, M.D.

FRACTURES OF SKULL.

Case 1st. June 7th W. B., carpenter, American, aged 35 years, single, fell 12 feet, striking on head and hands. He walked into the room, and I found fracture of both bones in left forearm, which was reduced. Being hurriedly recalled two hours later I found he had sunk with signs of compression, and died just before my arrival.

The examination then made showing fracture of occipital bone, no autopsy. The fact of ability to walk after such an injury makes the case of interest.

Case 2d. July 2d, '81, H. M., American, aged 10 years, fell from scaffold about 10 feet, striking on head. On examining him, found he suffered great pain in head, hemorrhage from nose, right pupil dilated, vomiting, faint and weak. There was a tumor the size of a hen's egg, 1½ inches over right orbit, from the blood beneath the scalp, and a depression in the outer table of skull could be made out beneath. Treated with stimulants at first, then cold applications and rest. Later tumor suppurated, and the fracture of outer table was easily made out on evacuating the pus. The boy recovered rapidly, but with some dizziness.

FRACTURES.

In six fractures of the forearm all were Colles save one in middle of arm of boy 5 years old. Although one was in the arm of a lady aged 74 years, all were united at the end of three weeks, and the splints removed at that time. Doy's splint was used in each case. In two of the cases

the power of supination and pronation was considerably limited when last seen.

T. Thompson, aged 3 years, fell Nov. 2d, separating the epiphysis of the right humerus, and dislocating head of radius anteriorly. The reduction was carefully made, and elbow was dressed in Ahl's patent splint. Four days afterwards Doy's movable or hinge elbow splint for anterior surface was applied, motion being made every second day until 25th day, when dressings were removed with a seemingly perfect result.

The same injury was sustained in December, 1880, by a five year old son of T. Moriarity, of Bloomington, and the same treatment was applied, save the passive motion, which was made only once per week. The motion in the elbow was limited for nearly six months, but gradually became perfect.

In three Potts fractures, treated the first five days with Doy's ankle splints, afterwards put up in plaster of paris, there is impaired usefulness of the ankle joint in each case.

September 3d, —— was run over by hand-car, sustaining compound fracture of the neck and spine of scapula and fracture of outer third of clavicle. Two days after the injury I saw him, and called Dr. Abbott in consultation. Removed loose fragments of bone, and as the parts were enormously swollen, simply dressed it with hot water, and put patient on his back. Later Sayre's dressing was applied, but was intolerable and had to be discontinued. No splint could be used, and finally the elbow was drawn up as far as possible in a common sling, and the whole arm bandaged to side, and with an axillary pad constituted whole dressing. The bones of scapula uniting perfectly, but the clavicle by ligament only, and with considerable deformity or overriding. The shoulder is useful as ever, save limited ability to raise humerus level with shoulder.

February 5th, '82, W. W., female, colored, aged 10 years, fell down flight of stairs, fracturing right clavicle in outer third. Sayre's dressing was applied, with perfect result in eighteen days.

AMPUTATIONS.

F. S., aged 19, American, while working in planing mill, Sept. 27th, 1881, had his left hand, forearm and elbow joint mangled in the machinery so as to make an amputation necessary at the junction of middle and lower third of humerus. All the instruments, spray, etc., were carbolized, circular amputation made, stump dressed with ordinary carbolized marine lint, and the young man sent home from my office in a carriage. The dressings were not removed till the sixth day, when union was found to be perfect, and the stitches were removed, stump supported with bandages, and the patient allowed to walk about the streets daily, needing no further care.

I have also made Syme's amputation four times, Hayes' twice, modified Chopart's once, for mortification, the results of freezing, during the past winter, using the same dressings, but primary union has not resulted in either case, but all have terminated satisfactorily.

Two or three operations at the Minnesota College Hospital were experimentally made by the complete Listerian method, and immediate union resulted, but the rule has been to exercise great caution as to contagion, cleanliness and general hygienic measures, but operations and dressings are made without the spray.

B. R., American, aged 22, discharged contents of shotgun with hand over muzzle, carrying away lower third of second metacarpal bone, fracturing third, blowing soft tissues of hand full of unburned powder. The second metacarpal bone was divided with forceps near upper articulation, and the finger removed with disorganized

fragments of the wound, and the parts united and dressed with warm dressings. The inflammation ran very high in hand, but it was kept immersed in hot water and carefully cleansed with weak solution of carbolic acid, and union took place a month later by granulation, the first and third fingers lying together, and the hand being very little disfigured or disabled.

M. R., aged 35, male, Norwegian, single, denied syphilis, presented himself January 10th, 1882, for treatment of a tumor occupying the superior triangle of right side of neck, saying that the one upon the opposite side had been removed by a surgeon one year ago, and he wanted this "cut out." The tumor was hard, but tissues over it were movable, and the sterno mastoid not involved. The patient appeared generally strumous, and the tumor was believed to be scirrhous. He was put under ether on the 14th, the next regular surgical clinic, and the tumor removed iu the presence of the class, with the assistance of Dr. C. A. Wheaton and others. Instead of being benefitted by the operation, all the neighboring glands indurated and are now gradually involving the surrounding tissues in the orthodox scirrhous method.

TRACHEOTOMY.

Was called Feb. 4th, 1882, to M. W., Scandinavian, female, aged 4 years, and found patient almost asphyxiated from membranous croup. No diphtheritic patches in throat, and child well nourished, no signs of pneumonia, it was deemed a very favorable case by the gentlemen in consultation for tracheotomy, which was accordingly performed, and instead of immediately inserting tube, the divided rings of trachea were stitched through and fastened apart by strips of adhesive plaster attached to each shoulder to prevent the wound closing.

The relief was immediate and perfect, but some twelve hours later I was hurriedly recalled by the announcement that the child was strangling. I found a membranous cast of the trachea was driven into the opening, which came near causing fatal suffocation. It was removed, and a second, which became developed, would be driven up to the opening, and immediately drawn back with each inspiration, after some trouble was also removed, and on the second day, as the stitches seemed to be causing some irritation of the edges of the wound, they were removed and the ordinary tube introduced. On the third day the membrane formed again below, and with a consecutive pneumonia ended the patient's life that night.

Of the five other cases operated upon during the year, all had diphtheritic patches, and died from the third to the eighth day after operation.

A case of phymosis operated upon four days after one of the operations for tracheotomy, developed diphtheria in edges of wound primarily and secondarily at peno-scrotal junction and in throat, and the entire foreskin was destroyed by the diphtheritic slough. Diphtheria was also communicated to three other members of the family, none of the cases proving fatal. All instruments, sutures, sponges, etc., used in the operation were thoroughly carbolized.

GUN-SHOT WOUND.

June 18th, 1881, A. C., Swede, laboring man, while intoxicated, was accidentally wounded by a revolver bullet, calibre 32. After being wounded still remained standing, and talked with companions possibly half an hour. On arrival found him lying down, face on left side full of powder. Temperature normal, pulse slightly accelerated, little pain, motor paralysis of right arm. Examination revealed wound at left side of inferior max-

illary, probe passing downwards and backwards towards larynx.

From motor paralysis of right arm, unaccompanied by symptoms referable to sensory nerves or to brain, a diagnosis was made that the ball had lodged against the anterior part of spinal column on the right side in the cervical region. At end of third day symptoms of meningitis set in, the man dying comatose on the afternoon of the 25th.

Post mortem examination revealed the track of the ball as glancing from the inferior maxillary in a direction downwards, backwards, and to the right, perforating the epiglottis and lodging between the body of the fourth and fifth cervical vertebræ, towards the right side. The brain and cord showing the presence of an acute meningitis, which had extended from the point of the injury.

HEMORRHOIDS.

In operating for hemorrhoids with ligatures, I have found in four cases the necessity of a second operation, from the fact that the ligatures which had been drawn closely as possible originally, after being pushed through the pedicle on a needle, had so cut into it as to lessen the constriction sufficiently to allow the re-establishment of the circulation in the mass itself.

In all the cases in which the injection of a few drops of carbolic acid was performed, the cure has resulted from the first application.

REPORT OF CASES BY JAS. H. DUNN, M. D.

SHAKOPEE, MINN., March 28, 1882.

Dr. J. B. McGaughey, Chairman Committee on Surgery:

DEAR SIR:—The following cases, which had some points of interest to me, are offered if you think them worthy of reporting:

CASE I. STRANGULATED FEMORAL HERNIA—OPERATION —RECOVERY.

On August 6th, 1881, I visited a German widow, aged 54 years, a somewhat frail, nervous woman, who had suffered the previous night with pain in abdomen and considerable vomiting. She had for years worn a truss for double femoral hernia, and sixteen years before had undergone an operation for strangulated femoral hernia on the right side.

I found a small tumor beneath Ponpart's ligament at the saphenous opening. It was about an inch and a half in one diameter and a little less in the other, very hard, and resembled a bunch of inflamed lymphatic glands. The family did not speak English, and I understood, or rather misunderstood, them to say that she never had a tumor there before, i. e., was not ruptured, unless within twenty-four hours, on this, the left side. The fact she had vomited less persistently, and had two passages of the bowels since the attack early the previous evening, notwithstanding the position and characteristics of the tumor, left some doubt in mind as to its real nature. Hence, having tried carefully to reduce by taxis what I

supposed must be a femoral hernia without success, I resolved to await developments. Gave morphine hypodermically to allay pain, and left the patient, with directions to give several doses of castor oil, to determine whether bowel was or was not pervious.

Early on morning of 7th started to country to see my patient. Met a messenger, who said she had been growing worse rapidly for twelve hours. The morphine had quieted pain for a time, no evacuation of bowels, and she was vomiting almost constantly. Complained of pain radiating from tumor over abdomen. Pulse small and wiry. Her friends endeavored to dissuade her from submitting to an operation, but having been relieved by this means once she persisted in trying it again. On our way out my bag of dressings was lost from wagon, and I found myself with a pocket case of instruments, and one of medicine, in which was a bottle of carbolic acid; found a small piece of sponge, which was thoroughly carbolized. My brother, a medical student, administered chloroform, (ether having been lost with bag.) A free incision at right angles with Ponpart's ligament was made and sack opened. The intestine was tightly constricted in the ring, and was badly congested—at some points purple. The ring was cut upwards and inwards, on a grooved director at first, and later on tip of finger. The ring thus enlarged, gentle taxis caused reduction of tumor. The parts were washed with a weak solution of carbolic acid, wound closed with silk sutures, and a graduated compress firmly applied over the ring. Wound dressed on the third day and stitches removed. About half a drachm of pus escaped at this time. Compress re-applied, and daily lifted for examination of wound. On the eighth day all was healed soundly, no pus having been formed except that spoken of above. Compress was worn until a new truss was adjusted, two weeks later. The bowels

moved freely as soon as the patient recovered consciousness after taking anæsthetic.

I saw no more of patient until eight months after operation. She says hernia has not come down since operation, however she wears a truss during the day. After operating I learned that both hernias had been frequently down during several years previous—a strangulation.

CASE II. COMPOUND FRACTURE OF HUMERUS.

On the 7th day of August, 1881, Mr. B., aged 35, while walking on the R. R. track with a friend, both badly intoxicated, met a passenger train, and stepped out on the end of a tie to allow it to pass. A rod projecting from the engine struck his right arm just above the insertion of the deltoid muscle, but on the anterior aspect of the arm, pitched him backwards against a tie with such force as to greatly bruise his right shoulder and back. He arrived at my office still intoxicated, and a hole about ⅝ of an inch in diameter was found punched out down to the bone, and a nearly transverse fracture of the humerus about two inches above the insertion of the deltoid muscle. The bone was to some extent splintered, and a few small fragments were removed or subsequently discharged.

A posterior and two shorter lateral light basswood splints were fluted out and well padded to fit the arm, fastened to three straps, which, encircling the arm, were buckled. Thus the anterior fourth of the circumference of the arm was left open except where the three padded straps crossed it. A bit of carbolized lint covered the wound, and a bag of cold water lay over the uncovered part of the arm. The patient was taken to a hotel and placed in bed. Here, despite all that could be done, he

was much visited from the adjacent bar-room by drunken friends and neighbors. His brothers, who nursed him, were often drunk, and gave him whisky contrary to orders. Yet he did well for a week, till on the 14th, having been neglected for two days, he sent to obtain relief from a terrible headache. There had been very little discharge from the wound, which was filling up by granulation, and the arm was not much swollen. Quite suddenly he was attacked with chill and terrible headache. His temperature was 106°, tongue dry and covered with a brown coat. Arm was red and swollen, there was a little discharge of thin sanious pus. He was given a purgative dose of calomel and jalap, tincture of aconite, *pro re nata*, and cold, which had been for some days omitted, was resumed. For a week the temperature was not below 104° F., and headache was persistent. During the latter days of the week, fearing the effects of such continued high temperature, salacylate of soda, in twenty grain doses, once or twice daily, with smaller doses at intervals of three hours, were given. This seemed to reduce the temperature when given in large quantities, but on reducing doses it rose to nearly former height, until the 22d, when fever subsided rapidly. The arm again looked well. A slight discharge of icherous pus later became more healthy. Carbolized solution applied. The patient would, during his entire sickness, arise from bed when bowels moved or when urine was voided, and during the week of fever splints were only buckled to prevent movement at such times as he left his bed.

On the 1st of September he went home with his arm in a sling. Union of bone pretty strong, but there was still some discharge from the wound. On the 5th, four weeks after injury, being an engineer, he followed a portable engine, and ran it with the aid of an assistant. I then lost track of him until October, when arm was

healed but pretty stiff from long confinement. In December arm was nearly as good as before injury.

The case was interesting to me from the continued high fever during the second week; the good result which followed despite the motion kept up by the unruly patient, and the simple apparatus which was employed.

It was intended to follow this report by a summary of about one dozen cases of fractures of the extremities treated in the most simple manner, often with little more than rest in an easy position. The plan was adopted on account of the difficulties attending the application of complicated apparatus to patients residing many miles from the surgeon, among ignorant people. Especially have I been surprised at the result obtained in four or five cases of fracture of the leg treated in a box of bran or with a rolled quilt. Results satisfactory alike to the surgeon and the patient. Such apparatus may not do for fracture of the thigh or special cases in the upper extremity, but the fact that two arms have been lost in this county in one year's time from tight bandaging, (true they were in the hands of empirics,) and that one often finds patients groaning under pain where stiff and cumbersome apparatus is applied, or large weights attached in cases which make good recoveries without them, often excites the question in our minds, "Might not ordinary fractures in country practice, far from attendant, be treated with less danger (though slight the danger be) to life and limb, more comfort to the patient, more ease to the surgeon, and just as much certainty of good results, with more simple apparatus than is commonly used?" A limited experience has deeply impressed me with the following facts:

1st. Most ordinary fractures of long bones do remarkably well with very little treatment if it be common sense in character. 2d. Bad or poor and officious treatment is

usually followed by results far inferior to what would ensue if no treatment were used except rest in the position which instinct and pain cause the sufferer to assume. 3d. That however skillfully applied, complicated apparatus, and all apparatus so applied that strangulation is possible, are dangerous with ignorant, reckless people who live at a distance from the surgeon. 4th. That plaster and other similar dressings, which are excellent in later stages of treatment, and allow increased freedom in movement to patients, are in country practice generally very dangerous before swelling and inflammation have fully subsided.

In these days, when so much is learned by students in hospitals, and from observers in city and hospital practice, it seems that some points in which country practice must differ from that of more favored communities are overlooked.

CASE III. TETANUS FOLLOWING INJURY TO THE HAND.

Mr. W., aged 70 years, a weak, nervous man, on Feb. 9th, 1882, sustained an injury by falling on stick, which penetrated palm of hand between third and fourth metacarpal bones, but did not quite press through the skin on back of hand.

Hand healed in a short time under domestic treatment, but suppuration took place some days later, pieces of stick being discharged through wound. Hand was poulticed. No medical attention. Some difficulty in swallowing on the 19th and 20th. Could not open mouth wide. I was called to see him on the 21st. Wound had healed on palmar side. Some discharge from point where abscess broke on back of hand. Fingers and thumb extremely flexed, remaining so until death. Clonic spasm

of the muscles of arm and forearm occurring regularly every few minutes. He could not swallow, every attempt causing spasm of the muscles of deglutition. Mouth could be opened only to the extent of one half an inch. Pain constantly severe, was excruciating when muscular twitchings recurred. There was no great difficulty in respiration, yet more than pain alone would have caused. No *risus sardonicus*, and no spasm of other muscles. Morphine, one-fourth grain hypodermically once in three hours, relieved the pain, except during clonic spasms. Later 20 grains chloral hydrate per rectum was added to treatment, also nutritive enemata.

On the 22d he was in much the same condition, but greatly exhausted. On the 23d the old man died.

Account of death, as gained from rather ignorant attendants, was not very clear. Respiration more embarrassed, and clonic spasms more frequent. He probably had a general spasm before death, but this is not certain.

This report is necessarily meagre, as I was not summoned until 60 hours before death, and the long distance from town prevented more than two visits.

Case seemed of interest for these reasons: It was in my opinion a clear case of tetanus. If so, it was peculiar that only the muscles of the injured extremity and those of deglutition were markedly affected. The jaw was stiff but not set. Diaphragm possibly involved, but embarrassment of respiration never great, and the facial muscles were not affected except those that close the jaw, which, as above mentioned, were somewhat stiff.

CASE IV. SPONTANEOUS CURE OF NECROSED TIBIA.

In November, Jennie F., aged 4 years, had attack of periostitis. Treated by parents with cranberry poultice, disease regarded erysipelas. Leg becoming no better I

was consulted. A free incision allowed the escape of a large quantity of pus. This was followed by free discharge of pus for a month. General health suffered, but by the aid of nutritious diet, whisky, quinia, maltine, and good nursing, her condition was much improved by January 1st, 1881. An operation for the removal of dead bone was urged, but this was absolutely declined. I did not see the case again until November, 1881. Child in January was placed under care of an old woman, who claimed great healing power in such cases. In August the father brought me a piece of bone three inches in length, which represented the whole shaft of tibia. He said it had long been projecting from an opening in the leg, and at last the old woman drew it out.

In November, while attending other members of the family, I saw Jennie. She was running about the house. There was almost no discharge, but the leg bowed out badly, and was shortened. In January, 1882, leg was entirely healed, strong and useful, but crooked and short. It was evidently improved of late. The spontaneous discharge of so large a part of the tibia, and the almost complete recovery by unassisted nature, seemed worthy of record. It is only one more of the numerous cases in which "nature's curing hand," even when to some extent interfered with by meddlesome ignorance, produces results which "prove to be no journey work."

Very respectfully,

JAS. H. DUNN.

REPORT OF CASES BY R. L. MOORE, M. D.

Case 1. Fracture of Tibia and Fibula—Plaster Paris Bandage—-Delayed Union—-Rubber Bandage—Final Cure after months of treatment.

March 31, 1881, P. Z., a large, heavy man, aged 68 years, American, received a fracture of both bones of the left leg at about the middle third. I saw him ten hours after the accident. There was not much swelling or displacement, and reduction was easy. Applied at once a plaster of paris bandage from the toes to the knee. After three or four days cut half an inch in width from the anterior surface of hardened case. Patient had suffered little pain or discomfort. At the end of four weeks all seems to be well with it, but it is evident there is no union. Two weeks later removed dressings entirely, and found no union. The ends of fragments appear to be in perfect apposition.

I now dressed with long side splints, well padded, and with these to support the foot, and for a posterior splint used a fracture box. Packed the limb with its side splints firmly in box with pieces of an old bed quilt. These dressings were not disturbed until four weeks had elapsed. Union then seemed to be complete. The limb was more swollen and livid than at any other time, especially about the foot and ankle. There was no attempt or inclination on the part of the patient to use it. Friction dry and with liniments, the cold douche, and a variety of measures failed to bring it to a normal condition, though persisted in for weeks. The patient believed he could detect slight motion at point of fracture. I then bandaged the leg from the toes to the knee with a strong rubber bandage, (Martin's,) and ordered its removal once in twenty-four hours, and bandage and limb

wiped dry. Patient reapplied the bandage himself. At the end of two weeks the limb had resumed its normal size and color, but was very weak. Ferrule of provisional callus could be felt. There seemed to be slight motion within the ferrule. Foot and ankle swelled some and became cold after being up on crutches. This state of affairs lasted about six months, at the end of which time there seemed to be no motion at point of fracture. Callus could scarcely be detected. At the end of eight months he walked with a cane very well. Ten months from the date of injury there is only a slight lameness perceptible. Leg is in good shape, but yet it is not so strong and good, as the patient expresses himself, as its fellow.

Case 2. Fracture of Tibia and Fibula—Plaster Paris Bandage—Method of Application—Perfect Union at the end of four weeks—Complete cure at six weeks.

Was called Sept. 16th, 1881, to see Mrs. H., Norwegian, married, aged 35. She had fallen down stairs three hours before I saw her. Bruised some about head and body. Had also sustained a fracture of both bones of the right leg at union of middle and lower third. Leg swollen, considerable displacement. After reducing fracture, I proceed to dress as follows: I first envelope the leg from toes to knee with sheet wadding. Two persons support the limb and make firm even extension and counter extension, with the leg well flexed upon the thigh, while I apply the plaster of paris bandage, which has been soaked in hot water, to which a little salt has been added, until rollers are wet through. I place four or five layers from the toes well up on the knee joint, then smooth the whole over with wet plaster applied with the hand. The limb is now brought to a straight position, extension and counter extension maintained, until the plaster case is well set and hardened. Folded quilts are placed along the limb, and patient directed to keep per-

fectly quiet. Next day find her perfectly comfortable. Some of her neighbors doubt that she has met with so serious an injury as a broken leg. But she and her family retain a vivid picture of the distorted member, and she recalls the momentary torture of the "setting."

I open the case, place around it three straps of cotton cloth, by which it is made to hug the leg more or less closely, as desired. Order firm packing of quilts about foot and leg, and as nearly perfect quiet as possible. A babe four months old was nursed and cared for by her throughout the treatment.

I visit her once a week, and inspect the leg through the opening. At the end of four weeks it appears so well and firm that I remove the whole dressing. Firm, solid union has taken place. The callus is large. I put on a simple roller, and order her to keep the bed for another week, with limb supported as before. I learned that before the end of a week she had been up several times by the aid of a cane. Saw her two weeks afterward doing her household work. The limb to-day is as perfect as it could well be.

Case 3. J. K., aged 21, Irish, male, compound fracture of humerus; plaster of paris bandage; good result.

Case 4. Mrs. P. M., aged 31, fracture of both bones of forearm; plaster bandage; good result; firm union in four weeks.

Case 5. M. T., aged 11, male, fracture of humerus, extending into elbow joint. Good result with use of plaster of paris bandage.

Case 6. S. T., male, aged 40, American, cut foot with an ax, severing tendons, arteries, and first, second and third metatarsal bones. Had lost a large amount of

blood. Applied five ligatures to arrest hemorrhage from dorsalis, hallucis and interosseous arteries. Closed wound with interrupted sutures, and dressed after my method of treating minor wounds. Healed by first intention, and man at work in four weeks.

Case 7. J. R., male, American, torn and lacerated wound of right hand by a falling tree. Fracture of first phalanx of thumb.

Case 8. Mrs. J. U., aged 58, German, strangulated femoral hernia. Had stercoraceous vomiting for three days before I saw her. Efforts to reduce by taxis unsuccessful. Patient in extremity, and death impending. I operated by lamp light on New Year's day, 1882. Gut tightly strangulated and dark colored. No untoward symptom followed. Was well in two weeks.

Case 9. Injury of Arm in Mill Machinery—Great Displacement of Fragments of Humerus—Mortification of the Arm and Forearm from Occlusion of the Main Artery—Amputation at Shoulder Joint—Recovery.

On the 10th day of September, 1881, M. J., a miller, employed in Fillmore mill, was caught in machinery and seriously injured. Dr. Robbins, of Wykoff, was called to see him, and found his right arm broken near the shoulder joint, the head of humerus wrenched from its socket, and thrust into axillary space. There was great contusion and laceration of tissues in the vicinity of shoulder joint and down to eighth intercostal space. The doctor, notwithstanding severity of injuries, thought possibly the arm might be saved, and accordingly dressed it in a proper manner.

Within a day or two it was observed that the forearm was cold and apparently lifeless. At this point Drs. Vance, Moore and Redman were called in counsel in

case. Advised further efforts to save arm, but in a few days unmistakable evidence of gangrene appeared. It was decided to amputate at shoulder joint. Dr. Redman amputated, assisted by other surgeons. The brachial artery was found closed by clot, which was doubtless main cause of death of the forearm. A rent was found in the capsular ligament, through which head of humerus was forced against the wall of chest. After conclusion of the operation the wound was daily washed through drainage tubes in cavity of axilla with a carbolized solution, and a light dressing of lint, saturated with carbolized oil, was applied. Under this treatment, with a generous supply of nutrients and stimulants, the wound healed well in the main. The pus cavity in the axilla gave considerable trouble, but finally healed. It was necessary, however, to make counter openings to allow the escape of blood and pus which formed in cavities and threatened the destruction of the patient by blood poisoning or pyæmia.

Case 10. Rupture of Perinæum—Operation.

Mrs. S., German, aged 31, third labor, delivered with forceps by Dr. R., of Wykoff. Just as the head passed through the soft parts the woman violently kicked the doctor, precipitating delivery and causing a complete rupture of perinæum. Operation one week after delivery. Used silk quilled suture. Silk boiled in carbolic acid and wax. Complete union in twelve days.

Case 11. Strangulated Inguinal Hernia.

J. J., aged 21, had symptoms of strangulation for four days. Reduced by taxis.

Case 12. Cystic Sarcocele—Left Testicle.

C. K., German, aged 20. Excision performed March 25th, 1882.

REPORT OF CASES BY F. DEDOLPH, M. D.

TREPHINING FOR COMPOUND COMMINUTED DEPRESSED FRACTURE OF SKULL.

John Nelson was struck with an instrument, the nature of which was not known to him at that time. This was on Friday. Next Saturday he called on me. On examination a very small contused wound was found on the right side of skull, which discharged freely. The wound led down to a depressed fracture of the skull, the portion of the outer table which was depressed being larger than a dime. The patient was sensible, but some words began to fail him—beginning aphasia. Upon examining the wound more closely I was led to think, from the small size of the depressed portion of the outer table, that there was probably extensive splintering of the inner table, and a great chance, if the case was left without operative interference, of the fragments irritating the dura-mater, and thus causing further mischief. Taking this view of the case, I proposed trephining, which was performed antiseptically sometime afterward. Paralysis of the left arm and leg had set in, and there was full aphasia. The operation showed the correctness of the diagnosis. Fragments of bone were fixed in the dura-mater, and partly driven into the brain. All symptoms of paralysis speedily disappeared, and full recovery ensued.

In the subsequent trial in court it was learned that the weapon used was a beer faucet, the small end of which made the wound.

Had this case been left without operative measures, owing to the absence of the symptoms of compression in the first week, it surely would have proved fatal.

GUN-SHOT WOUND IN SPINAL COLUMN.

Mr. M. was shot May 2d, 1881. Clavicle was broken. Ball passed through lungs, lodging in spinal column, where it remains at present time. There was hemorrhage from lungs, also hæmothorax. The brachial plexus was wounded, and consequently paralysis of left arm. The bladder, bowels and lower extremities were also paralyzed. Urine had to be drawn and feces artificially removed for six weeks. The external wound healed primarily under antiseptic treatment.

The statistics on antiseptic surgery in the last Turko-Russian war were so favorable that the method commended itself to me, and I have adhered to it strictly in all my cases.

The hæmothorax was absorbed, and paralysis wore off except in lower extremities, which cannot be moved much yet. In every other respect he is an entirely well man. Ball is imbedded in the body of the fifth cervical vertebra, as indicated by a rather persistent neuralgia.

TRANSFUSION IN A CASE OF HÆMOPHILIA.

Mr. B. was attacked with angina tonsillaris on both sides. Was nearly suffocated when first seen. I at once made, with the dim morning light, some incisions in the tonsils. Bleeding at once commenced from the wounds in the tonsils, and continued for three days. Hemorrhage was capillary—oozing from the points. No arterial jetting. Circumligation was made, and hemorrhage arrested for a time. As soon as the ligated masses came away the bleeding from the whole tonsil recurred. Then by questioning I found that the family was of hemorrhagic diathesis. The mother died of hemorrhage in childbirth. A sister nearly died from pulmonary hemorrhage and from bleeding following the extraction of a tooth. The patient previously had nearly bled to death from a wound of hand, etc.

It was decided at once to make transfusion, and as none of the members of his order would give the blood, it was resolved to take it from a living sheep. Accordingly the carotid of a sheep was opened, and with precautions against the admission of air, the stream of blood was directed into the man's basilar vein. This was on the twelfth day of hemorrhage, when the patient was nearly exhausted. The bleeding stopped at once when about eight ounces of blood had been injected. The only force employed was that of the heart's action of the sheep. An estimate of the quantity of blood that would pass through the tube in a given time was previously made. Certain symptoms were used to indicate when to cease the injection. Not a drop of blood was lost after the transfusion was made. The operation was performed in this case because the blood of this man did not possess the quality of coagulation—probably owing to want of fibrine. Full recovery.

CASE OF PYO-PNEUMOTHORAX.

This case is interesting from several points of view, both pathological and clinical.

Mr. C. was injured by a heavily loaded wagon going down hill running over him. Pieces of rib were driven into his left lung. The lung was collapsed. On the eighth day after the injury an incision two inches in length was made between the seventh and eighth ribs. Pus and gas escaped, apparently under great pressure, and at once respiration with right lung became easy. Antiseptic injections with thymol were kept up more than a month. The collapsed lung afterwards expanded, which is so much more to be wondered at, as the fluid effusion was so large, and these pleuritic inflammatory tissues generally organize into fibrous bands, binding the lung down to the spine, thus being a hindrance to a complete expansion of the lung. A well man in two months.

REPORT OF CASES BY D. W. HUNT, M. D.

CARIES OF INFERIOR MAXILLARY BONE—OPERATION—COMPOUND FRACTURES ARM AND FOREARM—UNION OF HUMERUS — RE-FRACTURE — NON-UNION — AMPUTATION.

I report a case of a Norwegian, healthy, and a farmer, who came to me in 1878, spring, complaining of his jaw and teeth. Stated he had seen several physicians, but had not been benefitted by treatment. On examination I found his teeth all *sound* but very *loose*. Taking my forceps I extracted four and found the jaw bone *necrosed*, especially on the outside, while the cavities represented by the three molar teeth were filled with a most offensive pus. I syringed out the cavity, and gave him a solution of carbolic acid and antiseptic cotton to dress the wound, telling him to call again in a week. In the meantime, I was sent for, and after examining, determined on excising all the outer portion of the inferior maxillary, making an incision from the angle of the jaw to the dental foramen. From the dental artery I found the whole thing had been thrown off and some new osseous formation internal and below. By seizing the bone, extracted the entire jaw bone. Am sorry I did not preserve the bone, but have lost it. Closed up my wound, which healed by first intention, and in two weeks the patient was out dragging in grain.

Case No. 2. Of a young man, who in running off a belt from the main wheel of a threshing machine, fractured the bones of the forearm and that of the humerus, both being compound comminuted fractures. Calling in counsel, we adjusted the broken fragments on an elbow splint, and left the patient. This was not more than two hours after

the accident. In the morning I found the patient feverish and arm swollen. Dressing of cold water and opiates were administered. Was sent for in the afternoon, and found him delirious and fever very high. Called in counsel, and after deliberation concluded to open the stitches and examine the wound. Found the humerus was in place, but that some hemorrhage had taken place, the blood looking very dark and clotted, while some long spiculæ of bone near the outer surface were irritating the flesh. These were sawn off and the arm replaced. The fever abated during the night, and the wound seemed to be doing well, and the bones united. Unfortunately, some six weeks after, while the nurse was dressing the arm, and trying if the patient could hold it up himself, she dropped it, and again broke the humerus. This time it did not and could not be induced to unite, and was amputated two inches below the neck to save the boy's life. He made rapid recovery, the stump uniting by first intention. He was very much emaciated at the time, but at once began to improve when the drain which had cost him so much was removed.

EPILEPSY SIMULATING HYDROPHOBIA.

Having seen in the Chicago Medical Review a notice of a case of epilepsy simulating hydrophobia, containing the statement that it was the *second*, I add another:

Mr. H., aged 20, attacked with severe pain in the pectoral muscles, sent for a physician, who, seeing the patient, pronounced the disease "angina pectoris." The patient would have unconscious spells of from twenty minutes to one hour and during these times would claw away at his breast as though he would tear the flesh off, so much so that he was compelled to be held during the time of unconsciousness. These attacks would come on every afternoon and continue for hours—the patient passing from one

to another, after an interim of only a few moments. I was sent for the third day; found him just out of one and another coming on. I at once applied to the chest a chloroform liniment and gave an anæsthetic. These measures afforded relief. I gave some Fl. Ext. Gelsemium and Fl. Ext. Belladonna, to be taken every two hours, which prevented the attacks for a day or two but again they returned in a convulsive form and so violently that it required five strong men to control him while in the spasm. Everything that could be named for the relief of epilepsy was administered from bromide of potassium to conium, but seemingly with very little influence; the bromide in large doses seeming most efficient. He had a peculiar inclination to bite during his convulsive moments. The spasmodic action was the most violent I ever saw. He was very muscular and strong. He would even drive two men from the room. This continued for two weeks almost nightly. The peculiarities of this case were the violent spasms and determination to strike or bite. The anæsthetic, after the attacks became so violent, only increased the difficulty.

ENCEPHALOID—OPERATION—RECOVERY.

Was called March 1, 1875, to see Mrs. S., a lady some 58 years of age, suffering from cancer, which seemed to be of the soft variety, or fungus medullaris encephaloma; was situated in the upper third of the femur, was some six inches in diameter, and attached near the femur at the origin of the external circumflex artery. The reason of their sending for me was that the artery had been eaten off and frightful hemorrhage followed. The artery being ligated and surface cauterized, I advised to have the cancer excised but the old lady refused. I gave a lotion to apply of carbolic acid and opium. The next day I was sent for to remove the cancer, as the old lady said

she did not expect to live but wanted to relieve her friends as the stench was something they could not stand. History of the cancer was as follows: — Ten years before she had felt a little tumor under the skin. It continued to grow and pain her some until last July when, as she termed it, it broke out. Since then it had grown very fast. She was anæsthetized and the mass cut out and the cavity cleansed with a fifty per cent. solution of carbolic acid. It healed kindly and in two months was entirely well. The lady is still living and the cancer has never returned.

ATRESIA VAGINAE.

One more interesting case, that of a young lady, 22 years of age, who had never menstruated. After questioning her closely I found something very unnatural must exist. She had sores on her feet, and distended veins. On examination I found an imperforate vagina. The uterus I could detect through the walls of the abdomen. Thought I could detect the cavity of the vagina but the membrane covering it was very tenacious and without the slightest opening. I administered or attempted to administer an anæsthetic, but could not get her enough under the influence to perform the operation with the help I had. The moment I would touch her she would struggle and jump with her eyes wide open, although half an hour and more had been given to the administration and no less than four ounces (all I had) given. Shall at another time strive to complete the operation and discover the true state of things. More *anon*.

Respectfully,

D. W. HUNT, M. D.

A CASE OF AMPUTATION AND RE-AMPUTATION FOLLOWED BY SECONDARY HEMORRHAGE.

BY D. A. STEWART, M. D.

Thomas Barry, aged 40, occupation a collecting agent, applied to me in January, 1881, for relief of constant pain and tenderness in the stump of amputated leg.

Upon examination I found the amputation about four inches above the ankle joint, the bone fleshless but covered with a thin, scaly, irritable cuticle for about two inches from the end, and a small indolent ulcer at the extreme end of the bone. I was informed that he had never been able to use an artificial foot on account of the great pain, and sensitiveness of the stump, being obliged to use cold water applications nearly every night, to enable him to sleep.

I unhesitatingly advised re-amputation as the only permanent relief—to which he objected emphatically, for reasons which are evident, from the following history of the case:

On the 8th of August, 1867, at Granville, Wisconsin, a small town near Milwaukee, the ankle was destroyed in a threshing machine, and on the same day amputation was performed, about two inches above the ankle joint, by the late Dr. E. B. Wolcott, of Milwaukee, who left the case in charge of a local physician.

During the night considerable hemorrhage occurred, which was not controlled entirely for several days, and by that time sloughing had commenced and continued until the covering of the bones was entirely swept away—and re-amputation became necessary, which was performed June 8th, 1868, at St. Luke's hospital, by Drs. Wolcott and Marks.

About two hours after the operation hemorrhage again occurred, much more extensive than at the previous operation, and as before, sloughing of the entire flap followed.

The patient was confined to the hospital for four months—during which time a thin, scaly covering had formed over the end of the bone, as described above. The patient was then discharged from the hospital, with the advice to never risk a second re-amputation.

On the 22d of March, 1881, I performed the third amputation, removing about two and one half inches of the bone.

After all the vessels were secured I was unable to control the flow of blood, but being forewarned, I waited for an hour or more before closing the parts, using cold water, styptics, etc., and still the slight but persistent hemorrhage continued. Finally, upon a very minute inspection I discovered the open mouth of a small interosseous artery, corresponding very nearly in size with an ordinary silver probe, within the structure of the bone, upon the external aspect of the fibula. Not being prepared with ivory plugs I improvised a plug from a piece of dry oak wood, and fitting it to the cavity, drove it in snugly—waited a few minutes, and, satisfied that the matter was mended, closed up the parts, and left the case in the hands of a local physician.

No further hemorrhage followed—the wound healed promptly, and the patient was able to leave the house on the third week after the operation.

After about six weeks, the wooden plug, accompanied by a small piece of exfoliated bone, made its appearance and was removed.

I saw the patient again in about one year—found a healthy, useful stump, entire relief from pain, and an increase of weight of about twenty pounds.

I rehearse this case, first to ask if it is not presumable

that the secondary hemorrhage which followed the three amputations came from the same vessel, and secondly to lave our souls with the sweet unction, that gentlemen who have justly earned for themselves a world-wide reputation for rare skill and ability, are sometimes liable to overlook the seemingly insignificant cause of a serious result.

DR. D. A. STEWART.

TWO CASES OF CANCER.

BY L. H. MUNGER, M. D.

Case No. 1. W. C., aged about 41, of Irish and American descent. A merchant leading a sedentary life. A man who applied himself very closely and continuously to business.

About the 23d of November, 1881, he first consulted me, complaining of a sense of fullness as if bloated in his abdomen; also of feeling as though a cord was tied around his body. He eructated acrid gas. Said he felt as though a plug of tobacco (which he did not use at all) was inside, just beneath the lower portion of the sternum. These feelings were more noticeable a few hours after meals, and more markedly after dinner than after other meals. Many mornings he felt quite well. Besides these symptoms, he had at times from one to two weeks apart, attacks of diarrhœa. These attacks were becoming more frequent and more severe and lasting. He sometimes would vomit a little during these attacks.

Knowing his habits of life, I at first diagnosed dyspepsia, and prescribed accordingly. He seemed to gain for a time, was not at any time obliged to leave his store.

I prescribed for him occasionally for several weeks, varying my prescriptions, hoping to help him more than I seemed to be doing, as his bad spells would still recur. I advised him to leave business and care at home, and go South for the winter, thinking that might benefit him more than medication. In the meantime he lost in strength and weight. He had a fair, though variable appetite, but nearly all food seemed to "hurt him" as he expressed it, and on that account he ate but little.

On the 17th of January, 1882, I was called to his house. Found him in bed, very weak, vomiting persistently, and could learn of no adequate cause. He was not feverish. The usual remedies had very little effect. Gradually, however, the nausea ceased. I prescribed small doses of digitalis, and a little weak hot-sling. Also milk and lime-water (one part milk and two parts lime-water), and occasionally a little lactopeptine. Under this treatment he seemed to rally, but had the old feeling of the "tobacco plug" still. This was relieved with grains ii of carb. of ammonia repeated as needed, and he gained strength slowly, though nothing but milk and lime-water seemed to be acceptable to his stomach.

When I was first called to see him at his house, I had begun to suspect the existence of malignant disease, but upon examination I could find no sign of any, nor did he look cachectic.

Finally, on the 29th of January, he had so far regained strength, that he rode in an open buggy to St. Cloud, (a distance of twenty miles,) his intention being to go South. After a days rest he went to Minneapolis and consulted a physician the result of whose examination I have not learned. He then returned to St. Cloud, intending to rest a few days and attend to a few matters of business before going South. Soon after getting back to St. Cloud, another attack of vomiting prostrated him. From this he rallied, and also from other attacks which followed

at lessening intervals; but each one left him weaker than it found him.

His attending physician there was Dr. Brigham. On, I think, the 18th of February, Dr. Flagg, of St. Paul, was called to his bedside. He suspected the existence of malignant disease, but was unable to discover physical signs in proof of its existence. He advised a palliative treatment.

About this time the matter vomited changed in character, becoming, instead of mostly a thin, colorless, watery fluid, more like muddy coffee, but still very sour and acrid. The vomiting spells became more frequent, and the amount vomited greater. On the evening of the 22d, I was again at his bedside. While I was there, he vomited over two pints of sour, acrid, muddy coffee-looking fluid. At midnight that night doctors Flagg, Brigham and myself, examined the patient. During that examination was found for the first time a small tumor at or near the pyloric extremity of the stomach. It was discovered by Dr. Flagg. It was not larger than a small walnut, and seemed quite inclined to elude the finger of the examiner. That settled the question of the existence of malignant disease. The patient gradually grew weaker, vomiting occasionally, but retaining consciousness until the last moment. He died without a struggle at one o'clock on the 24th.

Case No. 2. S., aged about 70, by occupation a farmer and general laborer, a native of Maine.

I first saw him on the 5th of December, 1881. He had been confined to his bed for six weeks, with what he had been told by an uneducated German practitioner, was typhoid fever. I found him free from fever, and I never at any time found his temperature elevated more than half a degree. His mouth, tongue and throat were covered with black crusts. His tongue was fissured. Articula-

tion was seriously interfered with, and swallowing was painful and difficult. The submaxillary glands were enlarged, and there were slight glandular enlargements in other parts of his body. He was much emaciated, and had a cachectic and at times a cadaveric look. He complained of a "terrible misery" in the epigastrium, a severe twisting, agonizing pain, of a remitting character. He was constipated, the bowels being evacuated only once in from five to nine days. The urine was scanty at times. There existed some œdema of the feet and ankles. I suspected malignant disease, but upon examination could find no physical signs of cancer. I put him upon palliative and tonic treatment, and thought I would watch the case for a while. From his family I learned that a brother, an aunt, and one other relative of the patient had died of cancer. After several careful examinations during nearly three weeks, I at last found, while he lay upon his right side with all his joints flexed, a hard, irregular tumor about the size of a goose egg, just beneath the costal extremities of the seventh and eighth ribs on the left side. The tumor received the impulse of the aortic beating. About this time he passed from the bowels large quantities of what his attendants described as half rotten clots of blood, of a most horribly offensive smell. He passed from one to two pints on several different occasions. He grew weaker and if possible more emaciated. The tumor seemed unchanged. About all that seemed to be accomplished by medication, was a degree of relief by taking two grain doses of oxalate of cerium. Various other remedies were tried as the symptoms seemed to indicate, but nothing was gained. After letting pass some time without treatment other than the "easing powders," the œdema of lower limbs disappeared. His mouth regained nearly its normal appearance. The offensive discharges ceased, his appetite improved almost to an extreme. He gained in strength a little. But

while this was the case there appeared on the back of his hands and on his neck several purpuric spots. Occasionally he had "bad days," when he suffered a great deal of pain. During most of his sickness his mind was clear, though when in his "bad days" he was slightly delirious. After a few weeks of what seemed to his family improvement, he began again to lose ground. The pain became more severe, he became anasarcous and ascitic. He had no return of the clotted-blood discharges. He died on the 7th of February, 1882.

No autopsy was permitted in either case.

RADICAL CURE OF HERNIA — HEATON'S OPERATION.

BY D. W. HAND, ST. PAUL.

February, 1880, J. D., aged 35; large scrotal hernia of long standing, and one that no truss would hold, inguinal ring as large as a silver dollar, and edges soft; a case no operation could cure, but at his urgent request I made a trial. It was easy to introduce the fluid, but next to impossible to keep the bowels from protruding, even when lying on his back. By elevating his hips and applying a bandage very firm, it was practically held back. The operation was repeated on the seventh day, and he was kept on his back for two weeks. On letting him get up, the bowels protruded in the same old way. As expected, the operation was a failure.

May, 1880, L. R., aged 18; right inguinal hernia of three years' standing; ring small, and borders firm. Operated May 26th, 1880. Applied bandage firm, and left him on his back for ten days. The external ring was

so close on the seventh day it was not thought necessary to repeat the injection. At the end of two weeks he went home, with directions to wear the bandage until October. He was last heard from in September, 1881, when there had been no return of the rupture, and he thought himself well.

Miss L., aged 21; small, painful, inguinal hernia of left side. It gave her so much trouble she was willing to endure anything to have it cured. Oct. 20th, 1881, I operated on it in a cold, dark room, and under unfavorable circumstances. Bandage was applied, and she kept on her back for two weeks; then she got up and went to work, still wearing the bandage. In January, 1882, she came back, and I found the external ring only partially closed. It gave her pain on coughing, and on lifting, although the bandage prevented any protrusion of the bowels. January 24th, I repeated the operation, reapplied bandage, and kept her in bed ten days. She is still wearing the bandage, and at this date, April 20th, the ring seems firmly closed. She has no pain, and attends to her work as a house servant.

S. R., aged 25, had an inguinal hernia of right side of some years' standing; had worn a truss all that time. The external ring was about the size of a ten cent piece, and having firm edges. Jan. 28th, 1882, I injected the canal well up and applied the usual bandage. He kept quietly on his back, and on the seventh day I repeated the injection. On the twelfth day he returned to his regular work. He is still wearing the bandage, but the ring is wholly obliterated, and he feels no weakness there when the bandage is loosened. April 18th, when I last saw him, he considered himself cured.

A. W., aged 17; came to me with a lump in his right groin, which proved to be an inguinal hernia. Said it

had been there for a couple of months; had never worn a truss. The external ring was the size of a five cent piece, and the edges flabby. Feb. 20th, 1882, I made the usual operation, but had to use an ordinary hypodermic syringe instead of my regular hernia syringe, that being broken. The bandage was applied and he kept on his back and left side for ten days. Six hours after the operation he had very severe pain in the inguinal region, and it required large doses of morphia to quiet him. In twenty-four hours the pain disappeared and he went on well. This is the only instance where I have known severe pain to follow this operation. After ten days he returned to school, still wearing the bandage. April 10th, while playing, he slipped and strained himself, and the bowels again came out past the bandage. He immediately replaced it and readjusted the bandage. April 13th, 1882, I repeated the operation, using the long, stout hernia needle. It gave him no pain, and he has been comfortable ever since; is still, April 20th, on his back, and the hernial ring appears completely closed. He will get up in two days now, and then be required to wear the bandage for three months longer.

CANCER IN BREAST—REMOVAL AND RESULTS.

BY D. W. HAND, ST. PAUL.

Mrs. J. S., aged 42, had a sero-cystic tumor in her left breast for about six months. It finally became very painful, without any signs of inflammation, and in April, 1878, I removed it. Took out the whole breast and most of the fibrous sheath covering the pectoral muscle. No glands in axilla were involved. The tumor was about the

size of a small hen's egg, and was composed of several cysts containing serum, and others filled with a hard white matter like sarcoma. Patient made a rapid recovery, and up to this date, April 20th, 1882, there has been no return.

Miss W., aged 50, first noticed a hard, painful lump in left breast, in July, 1878. In the following November it gave her some pain and I was called to see it. The tumor was then hard and nodular like schirrhus, and as large as a small orange. A number of glands in the axilla were inflamed and tender to the touch, and there was much pain of a shooting character. A month later I saw it again, and found in addition to former symptoms, the nipple retracted and the skin adherent over the whole tumor. January 3d, 1879, I removed the whole breast and sheath of pectoral muscle, and a large number of diseased glands in the axillary and sub-clavicular regions. These were so widely disseminated I felt sure that all were not removed. The patient was much prostrated by the operation and effects of the ether, and made a slow recovery. The wound healed kindly, however, leaving a healthy cicatrix and in three months time the full use of the arm was regained. The patient gained in flesh and became quite healthy looking. For near two years she enjoyed better health than for a long time before the operation. Twice during the summer of 1880, a few glands in the axillas of both sides became inflamed, but under rest and a spirit lotion would soon disappear. In October, 1880, she again began to lose flesh and assume the anxious look of former years, and a month later a sudden development of jaundice called attention to the liver which was found large, hard and nodular. She died in January, 1881, two years after the operation.

M. S., aged 41, unmarried, had for about three months noticed a painful lump in her right breast. In April,

1881, I found a tumor the size of a hen's egg, and from her description, enlarging quite rapidly. Removed the whole breast and the sheath of the pectoral muscle to which the tumor adhered. It was schirrhus. No glands in the axilla were involved. Patient made a speedy recovery and continues up to this date, April 20th, 1882, in fine health. During the past month, however, she has complained of lancinating pains in the other breast and fold of the axilla, although nothing abnormal can be found.

Mrs. C., aged 56, had a large schirrhus tumor in right breast for over a year. Nipple retracted and breast very painful. Glands in axilla extensively involved. In November, 1880, the whole breast, sheath of pectoral muscle and the enlarged glands were removed. The wound was long in healing. In fact the cicatrix up to this date has remained inflamed, tender and unhealthy looking. In February, 1882, fifteen months after the operation I had an opportunity to examine the case and found the pectoral muscle and skin above it united in one mass of strong hardness. The disease was progressing rapidly and the lady remarked, "You see there is nothing more to be done." She had opposed the first operation and only yielded to satisfy her husband.

Mrs. P., aged 58, had been operated on for removal of the right breast in February, 1878. In June, 1879, there was a fungus mass the size of a goose egg covering the cicatrix, and numerous glands in the axilla were enlarged. To relieve pain and prevent the offensive odor, it was decided to remove the tumor. This was thoroughly done, and a wound the size of a saucer left to heal by granulation. The patient was slow in getting up, but finally was strong enough to return to her home in the East. She died six months after the operation from development of cancer internally

REPORT OF WM. W. & WM. M. SWENEY.

RED WING, March 27, 1882.

J. B. McGaughey, M.D., Ch'n Com. Surg'y, Winona.

DEAR DOCTOR: Your circular in the interest of the Com. on Surgery for "Report" to the State Medical Society is received. In answer we would state that for years we have not wished to make surgery a part of our practice, and therefore have but few cases, of minor importance, to give.

Two cases of fracture only are worth noting; one from peculiarity of constitution or condition unfavorable to union or treatment, and one from constitutional inability to keep quiet, that the separated parts might retain a position favorable to union. The first was a case of fracture of the fibula, near the middle of the bone; cause direct force. In this case, the difficulty was that pressure of any kind resulted in sloughing of the cuticle, although the swelling and inflammation was slight. The patient was a young man, aged about 26 years, having a strumous physiognomy and general appearance. A hinged fracture box was substituted for splints, bran packing and adhesive straps to keep the limb in position, frequently changing these appliances on account of the effects of weight, limited pressure, and, even, when the adhesive straps impinged upon the skin. Iron, quinine and cod liver oil were given to correct the bias of constitution. At the end of three weeks these remedies appeared to have produced the desired results, when a starch bandage was applied, leaving two open places for the inspection of superficial ulcerations. This bandage was worn for about four weeks, when it was removed. The bone was found in good position, but not sufficiently firm in union to allow of movement without support. A

new bandage (starch) was applied, and the patient ordered to exercise in the open air, which was done, with decided improvement to general health. The last bandage was worn a month longer, after which a side splint with roller bandage was used, until the patient was himself satisfied that support was no longer necessary.

We only give this case because of the condition of the patient at the time of injury, and the effect of remedies to the amelioration of that condition. Several years ago a similar case was seen in our practice, and also one in the practice of the late Dr. A. B. Hawley of this city.

In the other case cited the difficulty was not in depressed constitution, but from restless disposition and an inability to keep quiet, so that the parts might remain in position favorable to bony union. The patient, a man of over 50 years of age, fell from the top of an elevator to the floor, a distance of over twenty feet. He presented a mass of cuts, bruises and contusions from head to foot. The injury which we wish to note was a transverse fracture of the patella, with a further fracture of the lower portion longitudinally. The proper dressing to all injuries was made, and the patient did well enough as long as the general soreness made it impossible for him to move from his bed. When this occurred the appliances to the patella were found not sufficiently firm to guard against the effects of the patient's restlessness. His limb was now put in a starch bandage, from well up on the thigh and down to the toes, leaving an open space over the patella. The fragments of the fracture were kept in position by adhesive straps and padding, and the patient made a good recovery, in spite of his efforts to the contrary. The union was ligamentous, but hardly to be distinguished from osseous repair. This case merely illustrates the advantage of the dressing in lightness, avoidance of unnecessary constriction, and allowing of locomotion with its benefits to general health.

Our other cases of fracture were treated with the same dressing, *after* the necessary caution as to swelling and external injury, and were two of Pott's fracture of the fibula and two of gum-stick fracture of the fore-arm. In the last two the starch bandage was applied after union was complete, and only used as a precaution with the little patients, in exercise and play.

A detail of minor cases is not called for, and therefore our report will have to close.

Yours truly,

WM. W. & WM. M. SWENEY.

EMPYEMA—OPERATION—RECOVERY.

BY T. S. M'DAVITT, M. D.

Was called to see Joe McA., aged 7 years, March 30, 1881. Found him with a very rapid, quick pulse, 160 to 170 per minute, had vomited some, had cold extremities and every evidence of what seemed to be fatal collapse.

On questioning found that he had been riding on a loaded wagon, had fallen between the wheels and boys with him thought the hind wheels had passed over the abdomen. He suffered greatly during the night with abdominal pains. During the next 72 hours collapse continued and death was momentarily expected. Excessive tenderness of abdomen and general tympanites were present indicative of general peritonitis. He was kept fully under the influence of opiates. The acute symptoms gradually subsided, so that the twelfth or thirteenth day after the accident the bowels were allowed to move and the patient gradually began to mend; so that he was not visited after April 28, 1881.

Some time during the last of May or the first of June on examination of the chest a very singular murmur was heard in the region of the heart, at the same time the presence of liquid within the pleural cavity was diagnosed. This continued to increase until the left chest was very considerably bulged.

The murmur also increasing in intensity of sound as the chest filled with fluid and being accompanied with a "thrill" was considered indicative of an aneurism. It was a question for some time, if the enlargement of chest might not in a measure be caused by the size of the aneurism and consequently an operation for empyema, as it was thought to be, was postponed as long as possible. Breathing finally became so labored and the little patient suffered so much, that an aspirating needle was passed and one quart of pus withdrawn, much to his relief. Having demonstrated the presence of pus and that an operation might be performed without puncturing the aneurism, a curvlinear incision was made between the sixth and seventh ribs below and to the outside of nipple. The pleura was completely emptied, thoroughly washed out with carbolized water, and hermetically sealed with plaster and collodion. The dressing was all removed twice a day at first on account of rapid secretion of pus, and the cavity thoroughly cleansed with a carbolized solution thrown through a catheter. Each time the opening was sealed beyond the possibility of air entering the cavity. At first the cavity held several ounces of fluid. It was thoroughly cleansed every day until it would hold no more than a teaspoonful. The last of November, as there was no more pus secreted, the wound was allowed to heal and the patient discharged, fat, hearty and seemingly healthy, with the aneurismal murmur still very distinct on auscultation.

The boy was healthy previous to injury. No evidence of disease of heart or blood vessels. In attempting to

Our other cases of fracture were treated wit'
dressing, *after* the necessary caution as to
external injury, and were two of Pott's
fibula and two of gum-stick fracture of
the last two the starch bandage was
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A detail of minor cases is not
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Yours truly

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OF DR. PHILO E. JONES.

RED WING, Minn., April 15, 1882.

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styloid process resting upon the tire with the fu
of the log pressing upon the anterior surface

find a rational theory of the effects of the accident, nothing is as hard to explain as the cause of the aneurism. It is certainly improbable if not impossible that the wheel in passing over the chest could have caused enough direct violence to the heart or blood vessels to have caused an aneurism without fracturing some of the bony covering. Suppose just at the moment of the wheel passing over and closing the abdominal aorta the heart to have been in a condition of systole. The closing of aorta would act as an obstruction. The vis a tergo, however, would be of sufficient strength to carry the blood to the uttermost parts of the body. This force being expended on a much less area, might not the tremendous and unusual strain have resulted in a rupture of one or more coats of the blood vessel and thus caused the aneurism?

REPORT OF DR. PHILO E. JONES.

RED WING, Minn., April 15, 1882.

Dear Doctor: I enclose the report of a case of "forward dislocation of the inferior extremity of the ulna," which is interesting mainly on account of its rarity. I regret that I have not more of interest to give you, but my surgery of the past year has been so much of a routine sort that I am unable to do so.

Chas. Bennett, aged 28, a strong, muscular Swede, came to me Feb. 9th, giving the following account of his injury: While engaged in unloading from a wagon some heavy pieces of round timber, the right fore-arm and wrist was caught between the timber and the rim of the wheel, the styloid process resting upon the tire with the full weight of the log pressing upon the anterior surface of

the wrist. He complained of pain in the wrist. The fore-arm was supinated, and could not be pronated; the wrist could be flexed and extended; the natural prominence of the ulna was wanting, while in its stead a marked depression existed. Several ineffectual attempts were made to accomplish the reduction by extension and supination, counter extension being applied at the elbow, then forcibly pronating the hand, at the same time pressing backwards the dislocated head of the bone with the fingers of the right, as described in a case reported by Mr. Parker,* of Liverpool. The reduction was finally accomplished by flexing the fore-arm at a right angle with the arm, and then gradually extending the hand and rotating it outwards until it was brought into the supine position, when the bone suddenly slipped into its natural position with an "audible snap."

Regarding the infrequency of this accident, I will quote literally from "Hamilton":† "Dupuytren met with but two cases in his long and extensive practice. Sir Astley Cooper does not record a single instance, and many surgeons affirm that they have never seen the dislocation in question. * * * The dislocation forwards is said by Malgaigne to be more rare than the dislocation backwards. In addition to the nine cases collected by him, I have been able to add one reported by Parker of Liverpool."

Respectfully yours,

PHILO E. JONES.

* Parker, Am. Journ. Med. Sci., 1843, and quoted by Hamilton, Frac. and Dis., p. 614.
† Frac. and Dis., 4th Ed., pp. 612 and 614.

REPORT OF F. E. BISSELL, M. D.

LITCHFIELD, Minn., April 1, 1882.

Dr. J. B. McGaughey, Chairman, Etc.

DEAR DOCTOR: Replying to yours of Feb. 21, 1882, I beg leave to report the following: On Jan. 13, 1882, was summoned to attend H. W., German, 16 years of age, a victim of a runaway. Found him unconscious, stertorous breathing, cold extremities, pulse 44, and blood oozing frem left ear and nose. Careful examination failed to find any external mark of injury. By moving the finger along the frontal bone in the anterior surface, and immediately over the left eye, a depression could be felt. The tumefaction in that region soon after confirmed me in the diagnosis of compression from depressed bone, and Drs. Barr and Newlands were summoned in consultation, and it was decided to operate. An incision was accordingly made from a point one inch above the internal canthus of the eye, in a semi-lunar form posteriorly, nearly 5 inches, and on dissecting, the depression, together with a fracture, was readily found. By elevating the depressed portion slightly, I was able to grasp it with a pair of narrow-pointed bone forceps, and with slight traction a piece of bone one and one-fourth inches in length and from one-fourth to one inch in width was removed. Careful examination failed to find any further depression, and it was decided that, although consciousness had not returned, that nothing more could be done. The hemorrhage still continued, and he died six hours after the operation. The peculiarity of this case to me was the extent and severity of the injury without inflicting cut or bruise to the soft parts.

STRANGULATED HERNIA.

Was called in consultation with Dr. Smart, of Grove City, on Jan. 17, 1882. Patient was a Scandinavian, 54 years of age. History of the case developed the fact that while hernia had existed from early childhood, that now for the first time the intestine had descended into the scrotum. At commencement of the attack patient had taken a large dose of pills, and the fœcal matter had forced its way down until it was thoroughly impacted in the scrotum. As all methods of reduction proved of no avail, an operation was determined on. An incision was accordingly made 3¾ inches in length, and by carefully dissecting down, the glistening surface of the hernial sac laid bare: following this with the finger, I readily found the ring, and fearing to trust the grooved probe, I inserted the point of the index finger of the left hand, and with a probe-pointed bistoury, cut the constriction. Failing still to reduce, I determined to open the sac. A small amount of bloody serum was discharged, when the gut readily slipped through the ring into the abdomen. I did not have charge of the case after the operation, but understand that peritonitis was developed, and the patient died 70 hours after the operation. Had we succeeded in reducing without opening the sac, I believe the operation would have been successful.

Yours respectfully,

F. E. BISSELL.

REPORT OF A. T. CONLEY, M. D.

CANNON FALLS, Minn., April 5, 1882.

Dr. J. B. McGaughey, Winona, Minn.

DEAR DOCTOR: I have little of importance to report to your committee unless you are trying to gather statistics.

Since June last I have had two fractures of the leg, both tibia and fibula, one fracture of the femur, one fracture of the humerus complicating the elbow joint. Have amputated two fingers. Have held two *post mortem* examinations. One of a young man 17 years old, who died after ten days of obstruction of the bowels. Found on examination a loop of about four feet of the small intestine had fallen through a rent in the mesentery and of course strangulated.

The other case was unimportant.

Yours, etc.,

A. T. CONLEY, M. D.

REPORT OF C. BERRY, M. D.

NEW ULM, Minn., April 8, 1882.

J. B. McGaughey, M. D.

I have nothing to report of interest during the past year. Have made three amputations below the knee, and one arm. Removed a few fibroid tumors in different localities, with some other minor surgical work. Treat

all cases antiseptically. Have had a few fractures of the leg, thigh and arm. All have made good recoveries, with the exception of one case of compound comminuted fracture of lower third of thigh. Patient died from nervous shock thirty-six hours after the accident.

Hastily yours,

C. BERRY.

CASES REPORTED BY H. L. COON, M. D.

In February I extirpated a cancerous breast by removing the entire gland. Cancer was as large as a small hen's egg, the nipple retracted and covered with a crusty exudation. The lady made a good recovery and is now perfectly well with good hopes of no return.

In March I removed a large, fatty tumor from the scapula of an old lady. It was rapidly enlarging and weighed one pound. Also a half dozen cystic tumors of the scalp. All have healed kindly. Carbolized catgut ligatures were made use of in the deep-seated vessels and the usual carbolized dressing applied.

GENERAL REMARKS.

Mr. President and Gentlemen:

Your committee immediately after appointment in February adopted the plan of writing personal letters to every member of the Society, soliciting contributions of matters of interest pertaining to surgical practice from which to construct a report. Answers have been received from a number reporting cases and submitting observations and results of practice which will be found appended. Others and far the greater number express regret that want of time, absence of record and various other causes prevented complying with request.

It is apparent that owing to the incomplete report received any attempt at presenting statistics of surgery in a tabular form would prove most unsatisfactory in its results.

That antiseptic surgery, in numerous modified forms, it is true, has received and continues to engage the attention of practitioners of surgery in this State, is shown by the communications from different sources. It is evident that the term antiseptic surgery as used by various practitioners does not imply an uniform method of procedure and conditions. This, however, is probably not a source of regret as the principles involved are clearly recognized and their importance properly appreciated, though the means adopted for securing the end may vary according to the taste and convenience of the surgeon, subject to a great extent to the environment of the attendant and patient. The tendency in the management of wounds is clearly towards the antiseptic method, and the results are such that few practitioners would willingly dispense with the supposed or real advantages of the treatment. This is shown by the fact that the carbolic acid solution has a

place allotted to it on the surgeon's tray second only in importance to that held by the anæsthetic. It is interesting, however, to observe that carbolic acid, owing to its many disagreeable properties has lost favor with some operators, and other less offensive articles have been substituted.

Thus Dr. Hewitt in his brief article upon the management of wounds, in which the general principles enunciated are such as will commend themselves to the reason of every surgeon, though the special features of the treatment may not be adopted, expresses his decided preference for boracic acid over the agent usually employed. There are many reasons why boracic should supersede carbolic acid provided the former can be shown to act as efficiently as the latter. An agent possessing the virtues of carbolic acid without its vices would be invaluable.

The report upon the operation for the radical cure of hernia by Heaton's method, submitted by Dr. Hand possesses special interest. The fact that successes and failures are alike carefully given adds much to its value, as the recorded observations of the patient investigator must ever be superior to the statements of the enthusiastic advocate or the violent opponent of any system the real worth of which has not been definitely determined. The success attending the procedure is sufficient to warrant its adoption in favorable cases.

Fractures of long bones: Owing to the frequency of such accidents and their many forms, producing injuries demanding special treatment in different cases with the responsibility of the attendant, always receive considerable attention in the report of the Committee on Surgery. It will be observed that the present is no exception to the general rule. A number of cases are reported which may be profitably examined. There is probably no department of surgery in which the practitioner is so likely to form a habit as in the treatment of fractures. By the

repeated use of certain appliances experience is gained which enables the surgeon to adapt and adjust his favorite apparatus in a manner that ensures comfort and safety to the patient, and meets the indications so nearly perfectly that most satisfactory results ensue. It would be unreasonable to suppose that he would abandon his tried method for that of another unless its apparent claims were important and well established.

Thus we find Dr. Moore using the plaster of paris bandage in all forms of fracture and with unvarying success, while Dr. Dunn prefers the simplest form of dressing in all cases which will meet the indications, deprecates the early use of the immovable dressing and discards all complicated apparatus.

There is reason to believe that the latter overestimates the tendency to the adoption of complex and unyielding appliances in these injuries. At least observations in practice would lead to this conclusion. The report of Dr. Dunsmoor shows a series of good results in fractures treated in a manner alike free from studied simplicity and complex apparatus.

The reports of special cases from various surgeons are generally well selected and instructive, and appear to be entitled to a place in the Transactions of the Society.

The thanks of the Committee are extended to the gentlemen of the Society for the valuable material furnished.

Respectfully submitted,

J. B. McGAUGHEY,
Chairman Committee.

Report of Committee on Obstetrics.

Mr. President and Members of the Minnesota State Medical Society:

Your Committee on Obstetrics has made an attempt to collect the chief facts bearing upon the history of Puerperal Fever as it has occurred under the observation of members of this Society during the past year, and to obtain the views and practice of observers regarding the nature and treatment of this most important disease.

It can hardly be necessary to apologize for our choice of subject. All reasons which should actuate us in the pursuit of knowledge concerning any disease difficult to understand, to prevent, and to cure, are supplemented in this case by the almost unique characteristic of this malady that it usually originates in one who is already under our very care and observation. The puerperal woman whom we are guiding through a course purely physiological, suddenly assumes a pathological state, for which calamity we are not unfrequently held accountable.

Having confined the subject of enquiry to comparatively narrow limits, your committee indulged the hope that responses to its circular would be numerous. About 190 copies were sent out—twenty-five answers have been received. Of these six were from gentlemen, who, moved by courtesy, kindly acknowledged receipt of the

circular but stated that they had nothing to report. Eleven members reported that they had met not a single case of puerperal fever during the year; however they favored us with matters of opinion, at greater or less length, for which we are grateful. The eight remaining contributors had all attended cases during the year and the compiler of this report has had two to add to the number. Four members had seen but a single case; one had three, another four and the last eight cases.

Of the twenty-three cases in all, it is particularly mentioned that eleven of the women attacked had not been delivered by the physician reporting the case.

Proceeding now to analyze our data according to the memoranda of our circular, we very quickly dispose of the two first topics. These, it would readily be apparent, were suggested with a view to approximating the comparative frequency of puerperal disease. The paucity of our returns puts this enquiry out of the question. Still we are fain to believe that puerperal fever must have been infrequent in the State during the year 1881. Dr. A. C. Wedge of Albert Lea, writes us: "Puerperal fever is almost an unknown disease in this county; I do not think there have been in all over three or four cases. I have been in practice here for twenty-five years."

A word about classification: Our contributors variously name the cases they report. One case is styled uterine phlebitis; another pyæmia; two are cases of metro-peritonitis; five are called puerperal peritonitis, and the remaining fourteen puerperal fever.

The case of longest duration is a very typical one of pyæmia reported at length by Dr. L. P. Dodge, of Farmington, which lasted seventeen weeks. A few other protracted cases reaching to four or six weeks are mentioned, among them Dr. W. W. Sweney's case of uterine phlebitis, which, judging from the history he gives of it, might properly be classed with Dr. Dodge's case. The

greater number of the fatal cases appear to have terminated within the first week; while in the majority of those which recovered the duration was about three weeks. Nineteen recovered—four died. Alas! No autopsies were made.

In examining the reports of cases sent to us one of the first points observed is that a large proportion are in multipara. Then we find this expression very frequently said: "after an easy and rapid delivery."

The temperatures observed have been generally low—101° to 102°—though 105° and 105½° were occasionally noted. A few very striking exceptions are recorded: Dr. Philo E. Jones of Red Wing, saw the thermometer rise to 108° twenty hours before death. In a severe case of puerperal septicæmia under the care of the writer, the temperature ranged between 108° and 107° every evening for nearly a week—the woman finally recovered. In one of puerperal peritonitis, which also recovered, the unusual temperatue of 108° was reached.

Nothing remarkable has been given us in the way of pulse records.

The treatment adopted might, in general terms, be styled conventional.

Opium and quinia: One gentleman gives morphia to narcotism, another prefers Dover's powders with camphor. Quinia is administered by some in tonic doses, others prescribe it more freely, and one advocates heoric doses of 40 to 60 grains in the day. Two gentlemen speak highly of veratrum viride, and one makes use of gelsemium—we presume that these two sedatives are employed at an early stage of the disease and particularly in those of an inflammatory type.

Be it noted that without exception all use disinfectant vaginal injections, and some specify that the injections shall be intra-uterine.

Almost every known antiseptic is mentioned, and but

few show any decided preference. Carbolic acid is apparently the favorite, though Dr. W. W. Sweney says: "Any disinfectant but carbolic acid." Dr. Hewitt employes a saturated solution or boracic acid, and Dr. Lincoln gives first place to potassium permanganate. Dr. A. T. Conley of Cannon Falls, used the glycero-carbolized tampon in a case where the lochia became suppressed.

Prophylaxis may be thus summed up: The employment of absolute cleanliness on the part of patient, nurse and physician, carbolizing the hands of the two latter, and use of vaginal injections. Only three members assert that it is their constant practice to employ vaginal injections. Dr. Hewitt has boracic acid, either in a fifty per cent. or a saturated solution, thrown into the vagina in all obstetrical cases both before and after confinement. Dr. French, of Minneapolis, orders antiseptic hot water injection from the second day after confinement, and Dr. Philo E. Jones antiseptic vaginal injections every twelve hours in all cases during continuance of the lochia. Two others state that they occasionally use vaginal injections as a prophylactic measure. Dr. W. W. Sweney remarks that "the avoidance of instrumental interference is not the least important precaution."

In regard to causation and contagion we have an expression of opinion from eleven of our contributors. The majority concur in attributing the origin of the disease to the absorption of septic matter from the genital passage into the circulation. A few are rather more prolix in their statements and we quote from their papers as follows:

Dr. Boardman says: "Puerperal fevers are due to toxæmia from absorption of products of decomposition, to injury during labor, exposure to cold, and to contagion, or to an epidemic influence; doubtless sometimes to a combination of two or more of these causes. I do not regard all the fevers in question as contagious—e. g.,

such cases as I report, when sporadic, at least, are, I think, free from contagious quality. * * * What we usually understand by puerperal fever I take to be a true septicæmia. It is undoubtedly contagious and may be sporadic or epidemic; in the latter case it seems to be due sometimes to causes which without this added influence might not produce the disease."

"In my case," says Dr. Berry, "the cause was plainly dampness, want of light, pure air and extreme filth, the vaginal walls were completely covered with blood-clots, said clots being in a putrid condition, septic poisoning was necessarily the result. I have no doubt as to the contagiousness of the disease."

Dr. Philo E. Jones points out that there seemed to be an element of contagion in seven of the cases which came under his observation, as all were attended by the same midwife who used the same syringe for each woman.

From Dr. W. W. Sweney's papers we quote: "The predisposing cause is the puerperal condition. In the sporadic cases the accidents of that condition are the exciting causes and they are numerous. In epidemic, an atmospheric or meteorological element is a strong factor in the case, I think; even the same may be said when the area is limited, and the cause may be properly endemic but disseminated in a given atmosphere. I do not know of my own knowledge as to contagion. In sporadic cases the septic poison is generated in the womb and its appendages or a result of inflammatory action by *all* causes operating against the natural sequela in recovery from child-birth and independent of absolute contagion."

Dr. Lincoln tells us that he is not, as at present advised, ready to deny the contagiousness of the disease, but does not wish to stand on record as one who *knows* that it is contagious. "The law of epidemic propagation is not yet revealed to me."

Dr. Hewitt pertinently points out the difficulty in

reconciling the supposed causes with fact. "* * * Very few women get through labor without such laceration (often considerable) and marked and offensive discharges are the rule, while puerperal fever is of rare occurrence. I am compelled to believe that the occurrence of the disease from such cause is dependent on constitutional as well as local conditions, both favoring its occurrence. The most of cases are from infection, the poison conveyed from the sick directly or mediately to the new victim. * * * Now I believe this infective matter, or virus, to be living and that it can be destroyed by the careful use of proper antiseptics."

We have but little to report concerning the association of erysipelas or the exanthemata, with puerperal fever. Nearly all the gentlemen who have met cases during the past year, and who refer to this point, tell us that neither erysipelas nor the exanthemata prevailed at the time, and among them are included those who saw the greatest number of cases. Dr. Dodge, however, reports otherwise, as follows: "Typhoid fever, erysipelas and scarlatina, either one or all have prevailed at the time in the immediate vicinity. Typhoid fever and scarlatina were both prevailing in the same locality as the first two cases reported, erysipelas in that of the third case. The fourth case, that of pyæmia, was located in the midst of nine cases of typhoid fever, two of which had proved fatal and two had not yet recovered. The hygienic surroundings were very bad; that is, filth of neighboring families had been deposited where it not only endangered the depositor but the family of my patient. Her nurse during the fifth week had facial erysipelas."

Dr. Lincoln and Dr. Sweney both stated that they have known puerperal fever and erysipelas to prevail in a locality at the same time.

That puerperal fever is a blood poisoning—a true septicæmia—is evidently the view, as to the nature of the

disease, entertained by all who have given an opinion; and the majority attribute the source of the poison to decomposition within the genital passages.

Dr. Wharton recognizes under the head of puerperal fever, first, that all zymotic influences having a tendency to produce septicæmia; second, puerperal peritonitis or any inflammation of the pelvic organs occurring during child-birth.

Dr. Moore, of Valley City, reports the disease as "generally inflammatory."

Dr. Sweney formulates his opinion in these words: "I believe that in a large majority of cases it is acute metritis speedily translated to its connective and adjacent tissues. * * * When an epidemic or contagious factor is present the disease is of increased gravity. I have once or twice known the disease to occur when it *seemed* as though there was some specific cause at work, yet even here the spread was *not* by contact, but epidemic (endemic may be more correct as embracing a circumscribed area), and in connection with a similar prevalence of erysipelas." After giving in detail an example in point, the Doctor continues: "It simply illustrates the phenomena of traumatic erysipelas, the translation of diphtheritic poison to an abrasion—the soil is in the best condition for receiving the dual agent whether through the system or in topical application."

Your Committee learn from the advance sheets of the Report of the State Board of Health, kindly furnished by the Secretary, of an epidemic (or endemic) of puerperal fever which broke out in a Polish settlement near Perham, Otter Tail County. There were some fifteen cases within a period of two years. The disease was very malignant, accompanied with a red rash, rapidly fatal and palpably contagious. No medical advice was sought. The contagion was supposed to have been brought by a woman

who was confined and treated for puerperal fever in Chicago.

Subsequent to Dr. V. Smith's visit, in May, 1881, to investigate the disease, a woman was confined under the care of a resident physician, Dr. I. S. Richardson, and although she presented some symptoms, previous to her accouchement, similar to those observed in previous fatal cases, she passed safely through the puerperal state.

The above is a digest of the answers received to our circular. We do not consider that it is within our province either to criticise the matter which has been contributed or to theorise on the subject general. Our regret that we had so few returns increases our feeling of obligation to those gentlemen who took the trouble to assist us in this enquiry.

While compelled to acknowledge that nothing new on the subject of puerperal fever is contained in our report, we are disposed to congratulate ourselves (and indeed the whole Society) upon this much, namely—that, believing, as we trust we may, that the material furnished is a fair sample of what would have been supplied had every member responded, it will at least show—first, that this dread disease is by no means prevalent in the State of Minnesota, and second, that the essentials of the modern views as to the nature, prophylaxis and treatment of the malady in question are entertained by the members of this Society.

Respectfully submitted,

A. E. SENKLER, M. D., Chairman.
A. WHARTON, M. D.,
N. K. WHITEMORE, M. D.,
V. SMITH, M. D.

PUERPERAL CONVULSIONS.

BY C. G. SLAGLE, M. D., WINNEBAGO CITY, MINN.

A Case of Puerperal Convulsions Treated by Opiates—Quinia—Iodia, etc., with Recovery.

You perhaps remember, gentlemen, that at our last meeting (in June, 1881,) I reported a case of puerperal convulsions which had just been treated by Dr. Humes and myself by depletion with the lancet and prolonged administration of chloroform, and which terminated favorably. I see my report of that case, as published in the proceedings of our Society, reads thus: "Here was a case of puerperal convulsions probably from *centric* irritation radiating from the uterus through the incident excitor-nerve fibres of the spinal and sympathetic uterine nerves, etc."

I certainly said, or *meant* to have said, "*eccentric* irritation," etc., and am anxious to correct the mistake, as I consider the division of eclampsias (puerperal) into *uremic-reflex* and *apopletic* of the utmost importance in determining our rational and most efficient treatment. And the case then reported was a typical example of the *reflex* variety occurring from eccentric irritation during pregnancy in a young, plethoric woman and yielding to depletion and anæsthetics.

It will be my endeavor to-day to present you with a report of another case which has just been dismissed from under my care and treatment with some favorable results —but quite typical of another variety occurring from *uremia* and therefore demanding quite a different mode of treatment.

Case.—Was called at 6 A. M. May 12th to wait on Mrs. N., aged 17 years. Small and anæmic in labor (primipara.) Found her in active labor at full term—had had light pains for last twenty-four hours, which had increased well within two hours previous to my arrival. She was quite anasarcous—bowels constipated, urine scant, pulse somewhat accelerated, complained of pain in head, which she informed me had been quite annoying for a week or more.

The presentation and position was normal, (right vertex) uterus (os) well dilated, pelvis good capacity, and everything about the labor favorable. Head rested low to inferior straight—membrane ruptured. Indeed I only had time to speedily make ready and receive the child all right in a few moments and without any very severe pains. In a few minutes the placenta was expelled and uterus contracted well without hemorrhage or untoward occurrence—all within less than one hour after my arrival at bedside. I gave her a dose of potassa bromide with hyoscyamus, arranged her comfortably and after expressing to her mother some slight apprehensions of uremia and a promise to see her soon again, I ventured to return home for my breakfast (as it was in the village.) In less than an hour I was summoned back in haste to find she had already had two violent convulsions and in a few moments had another. I at once ordered a large laxative enema—administered a little chloroform and as soon as she could swallow gave a large dose of calomel and podophyline. She continued to have convulsions at intervals of from half to one hour up to 3 P. M., having then had in all eleven. The case at this time seemed perfectly desperate and beyond any reasonable hope. She did not bear chloroform (on account of cordiac failure). Injections of bromide potassa and chloral were persistently rejected by the bowels, which had been

thoroughly opened by this time. I now gave a large dose of opium, Dover, and pulv. camphor for stomach, and very soon succeeded in getting the bowels to retain a large injection of pot. bromide, hydr. chloral and laudanum. In about half an hour the convulsions ceased, leaving her in a very exhausted semi-comatose yet very nervous condition.

I continued, however, to push my opiate treatment vigorously for the next forty-eight hours, as I was sure it was yielding satisfactory results in averting the spasms and quieting her agitated nervous system. I ordered head shaven closely and application of carbolic acid and tct. menthi pip: in water diligently applied to scalp. I had to catheterize every six or eight hours as the secretion of urine had become very copious. On submitting the urine to test it proved highly alkaline (ammoniacal) to litmus, and the heat test coagulated almost solid in the urinal tube.

I put her on an exclusive milk diet for the next week or ten days. Drinks, pot. chloras, lemonade and light spirits. Gave sulpho-carbolate sodium as a diuretic with a little digitalis. The œdema disappeared rapidly with the very free flow of urine.

After remaining in a stupid, almost comatose condition for forty-eight hours she suddenly roused to consciousness and asked intelligently what had happened—having forgotton even the cirumstances of the birth of the child which took place when she was perfectly rational and an hour or two previous to the convulsive seizure. She complained of feeling weak, "*tired*," sleepy and "a very *bad feeling about the head*"—especially in the occipital region. Had to catheterize her every six or eight hours for a week and open the bowels by enemata daily. Put her on quinia (grs. 2 every 4 hours,) and continued opiate as often for a week. Then discontinued opiate and added ferro phos. elx. gent. as tonic.

She continued to improve well without interruption in every respect, save the very bad feeling in the head, assuring me if I did not give her something for her head "she would go crazy." That symptom not yielding up to the eighteenth day, while she improved well in every other respect, I put her on full doses of "iodia," and on my visit next day she assured me voluntarily as soon as I stepped in the room, "Doctor, that last stuff you gave me is curing my head. Why did you not give it to me before."

It is now June 2d, the twenty-second day since her confinement and convulsive seizures, and has been dismissed to-day from my care, and quinia, iodia, ferro phos. elx. gent. ordered to be continued a week longer. Bowels regular, urine normal (only slightly albuminous). appetite good, sleeps well, gaining strength fast, œdema gone, pulse and temperature normal, mind clear, lacteal secretion good (nurses the child), "bad feeling about the head" gone. Though oblivious of all that happened for forty-eight hours subsequent to birth of child, knows nothing of having had convulsions. Her recovery is assured and is due to opiates mainly together with the brisk cholagogue catharsis, quinia and alterative (iodia).

Doubtless if I had employed early hypodermic injections of morphia to break the spasms at once the treatment would have been more prompt and satisfactory, and should I be so unfortunate as to have another case of puerperal eclampsia from uremia under similar circumstances, I shall most certainly resort to it at once.

June 2, 1882.

DISEASES OF THE NERVOUS SYSTEM.

To the President of the Minnesota State Medical Society:

C. N. Hewitt, M. D.—Dear Doctor: Your Committee on "Diseases of the Nervous System" beg leave to submit the following report.

C. K. BARTLETT, Chairman.
J. E. BOWERS.
W. L. LINCOLN.
C. E. RIGGS.
J. H. JAMES.

THE CARE OF THE INSANE BY MINNESOTA.

BY C. K. BARTLETT, M. D.

At an early date in the history of Minnesota the care of the insane became a question of philanthropic interest. During its Territorial period there were occasional cases requiring restraint and professional care, and the violent were confined in jails, and those of financial means or having friends able to assist them were sent to asylums in other States for treatment.

After the State government was organized in 1858, and for two or three years subsequently, the poverty of the State positively forbade any hope of establishing an asylum for this class of the population. Applications were made from time to time for their care; but it was not until 1862 that any positive steps were taken for their relief. By a concurrent resolution which was adopted by the Legislature of that year, Governor Ramsey was authorized to correspond with the Governors of adjacent States and inquire if they would receive such insane patients from this State as might be sent to their asylums, and at what price. The only favorable response was made from Iowa, which State offered to take not exceeding 20 in number at three dollars per week, and furnish clothing at their regulation price, about fifty dollars per year. This offer was accepted, and the first patient was sent April 28, 1862, and the following December, 4th day, six were collected from the counties of Ramsey, Meeker and Washington, after public notice, and sent to the hospital at Mt. Pleasant, Iowa. An appropriation was made by the Legislature in extra session to meet these expenses. The superintendent of the Iowa hospital reported "sixteen patients present from this State in December, 1863, and that the number from their own State was increasing so rapidly they had been compelled to notify the Governor of Minnesota that the further admission of patients from Minnesota must cease at an early date." Under these circumstances some other provision for the wants of the insane became necessary, and the building of a hospital in the State could not be long delayed. The late Henry A. Swift, while governor, in his message to the Legislature of 1864, called the attention of the members to the subject in the following pointed and forcible language: "It is hardly creditable to our State that no steps have yet been taken toward establishing an asylum for the indigent insane, and that we are dependent upon the charity of a

neighboring State for the means of providing temporary relief for a limited number of these unfortunates. We are also warned that the only State which gave a favorable response to our application to receive the insane of this State will soon have no room in its asylum for our use; so that unless you make some provision for their relief, this afflicted class of our population, demanding your warmest sympathy and tenderest care, will be left to suffer on miserably and hopelessly. It is high time that Minnesota should take some steps dictated by Christian civilization and humanity towards establishing, building up and fostering such asylums and charitable institutions as are the pride and enduring glory of her sister States of this Union."

This appeal did not, however, produce any immediate practical effect, and not until notice was given to the Governor in 1865, "That no more patients would be received at the hospital in Iowa, and that those already there must be removed in the fall of 1866," was any movement made for different arrangements. Accommodations were secured at the St. Vincent's Institute in St. Louis, Mo., for a limited number, and subsequently six were sent there.

March 2, 1866, an *act* was passed by the Legislature, "For the establishment and location of a hospital for insane in the State of Minnesota, and to provide for the regulation of the same." By this act a locating Board and a Board of Trustees were appointed. The location was made at St. Peter, the citizens generously donating a farm for that purpose at a cost of $7,000. The Trustees purchased a building for temporary use in St. Peter and prepared it for occupancy, and the first patient was admitted December 6, 1866. On the 28th of the same month the patients were brought from Iowa; but owing to the great demand for admissions from all parts of the State, the patients at St. Vincent's Institute were not returned to the State until the spring of 1869.

The Legislature of 1868 was asked for an appropriation of $40,000 to commence permanent buildings, which was granted; and plans having been obtained, work was commenced at once, and the walls of the first section and return of the north wing of the present building were erected and enclosed the same season. To meet the immediate and urgent demands for accommodations for the same year, another building was added to the temporary quarters already provided.

Another appropriation was made by the Legislature of 1869, with which the portion of the permanent hospital was finished, together with necessary buildings for heating apparatus, laundry, kitchen, &c., and patients were admitted during the following winter of 1870. This was the first great relief from over-crowded temporary quarters. No appropriation for building was made by the session (legislative) of 1870; but the following year, 1871, $40,000 were granted, with which the walls of the first section and return of the south wing were erected and enclosed; and during the year 1872 this portion of the hospital was completed and finished, and occupied by female patients.

During the winter of 1873 an appropriation of $100,000 was made to complete the center building and the south wing according to plans. This was done and the whole finished and occupied before the first of June, 1874. During this season, also, the walls of the balance of north wing were erected, and the following year, 1875, finished and occupied, making the building symmetrically complete, and providing ample and comfortable accommodations for five hundred patients with the necessary attendants. During all these years of building the increase of patients kept the house full, and at no time could the temporary quarters be abandoned.

Previous to the year 1877 the hospital had been free only to the indigent insane, and patients having pecun-

iary ability were admitted as private boarders at a fixed price for support per week, but the Legislature of that year recognizing the fact that the hospital had been provided by the citizens by taxes, made the support of all patients free, and requiring that all should be committed by court in a similar manner. This was felt to be a matter of justice to those who, having contributed of their means for the erection and support of the institution, and becoming insane, should be equally, at least, entitled to its benefits with those who had not in any way assisted in the cost and maintenance of the same.

During the winter of 1878 the hospital at St. Peter being full, and additional accommodations being demanded, the Legislature passed an *act* changing the purpose of a building erected at Rochester for an Inebriate Asylum, and making it the "Second Hospital for Insane," and placed it in charge of the Board of Trustees of the Minnesota Hospital at St. Peter. It was not well adapted for the purpose for which it was now to be used; but by alterations and properly constructed additions since, it has now become a first-class hospital and furnishes comfortable accommodations for 200 patients, and additional buildings are now in process of construction.

Since the *act* establishing the hospital was passed in 1866, the State has expended in building $800,000, and in current expenses for support about $1,200,000, and no State of the Union has treated its insane more generously, or approached nearer the complete provision for *all* requiring aid and treatment. In November, 1880, a destructive incendiary fire occurred in the hospital at St. Peter, destroying one wing entirely, and in which several patients perished. This is now being restored by a prompt appropriation of the Legislature in a fire proof manner.

According to the last published reports of both Hospitals in 1881, there had then been admitted to the Min-

nesota Hospital for Insane 2,415 *cases* (not quite so many *persons*, as a few have been admitted more than once, thus increasing the number of *cases* without adding to the number of persons.) And of these 667 have been discharged recovered, 536 as *improved*, 206 as *stationary*, 6 as not *proper subjects*, and 364 have died. Remaining in Hospital Nov. 30, 1881, 612. At the Second Hospital for Insane there were remaining at the same time 113, and during the year 16 had been discharged *recovered*, 8 *improved*, 1 *unimproved*, and 9 had died. These statistics afford only a slight insight into the work accomplished by these hospitals, scarcely a hint at the suffering relieved and the distressing accidents probably prevented. not only among the patients themselves but to the afflicted households throughout the State. If the facts could be fully presented to the public, who could regret the small individual expense contributed for their care and relief, and who would wish to withhold from these suffering ones any reasonable comfort or diminish by parsimony what there is left of life for them to enjoy.

Future provision: Having now stated what has been done by this young State for its insane, it may be proper to suggest plans for the future concerning this our increasing class of citizens demanding care and treatment. This subject has been before the world for years and many experiments have been tried to find the "better way," with more or less of success, according to the place and population dealt with. Authorities having the matter in charge have not always taken into consideration the subject in all its bearings *before acting*, hence the cause of disappointment and frequent failure. Observing or hearing of a plan in one State or country partially successful, or so reported, they fail to examine the result so as to fully comprehend difficulties that may arise in undertaking a smilar project in another place, a different climate, and a dissimilar class of people. Then the superficial observer

of the long established colony for insane at Gheel, seeing patients boarding among the private families, working, enjoying considerable freedom, apparently quiet and contented and supported at a very small cost, come at once to the conclusion that this is a very successful plan and should be introduced into other places for the treatment of all chronic insane at least; but they fail to realize that the system at Gheel is the growth of years among a peculiar people, who by successive generations, pursuing the same course of life, have come to regard the care of the insane in this way as their living and business, and it would be as difficult to transfer this system to America, for instance, with success, as to introduce the language and government of the Chinese. In this country boarders are not taken except for profit, and the insane would not be tolerated, either by a private family or neighborhood, without a large compensation and under circumstances not liable to occur often among a people ambitious to make money and constantly improve their social position.

As an outgrowth and sequence of the colony at Gheel the "Cottage System," so called, has its advocates, as giving the patient more freedom and home-like life than they are usually supposed to enjoy in the ordinary hospitals of this country. Where a large number are congregated, there will always be some who might prefer, and perhaps enjoy more comforts in separate and small apartments, and be treated satisfactorily; but this number is limited and cannot be taken as a guide in the extensive provision that must be made for the mass to be maintained at public expense. The greatest good to the largest number must be the object constantly in view and the public demand this with practical economy in expenditures, with safety to society, and protection of the patient. Can these results be obtained in a cottage system on an extensive plan? No one can explain how five hundred people can be as economically maintained in

scattered cottages as under one roof and where all their wants are supplied from a central point. *Because it is not possible.* And in regard to the safety of the patients or those in charge, isolation only increases the danger to both parties; and this is a subject of more than ordinary importance. One advantage claimed for the cottage plan is that there would be less danger of fire, at least of a conflagration of great extent, such as has been the experience of several hospitals of late. This is true only so far as hospitals have been constructed in the past. There is no reason why they cannot be built in fireproof compartments and united with as much safety as though separated; and the facilities of transfer from one department to another for cause, either night or day, and the gathering of the whole household for worship or recreation in the assembly-room, are conveniences not to be overlooked or lightly esteemed in the construction and organization of a hospital for insane. In consideration of all the circumstances connected with the management of the insane, I believe it is the unanimous opinion of those best qualified by experience to decide that the plan of a large number of separate halls (to allow of liberal classification) in congregated asylums, so that all parts can be readily visited by night or day, and all served with their meals quickly from one central cooking department, affords the most complete organization with the most advantages for the whole, and at the least cost, of any system yet devised for this country and the people to be accommodated. These conclusions have been devised from long experience and wise observation both of the failures and successes witnessed in the experiments in the care of and provision for the insane. It is true some mistakes have been made by those in charge of building operations even where we looked for the highest intelligence and the most prudent action. Building committees, in their zeal for the welfare of those deprived of their

reason, have spared neither trouble or expense to provide quarters that by their elegance and comforts, might, if possible, the sooner restore the afflicted to health and reason; and in some instances they may have been tempted by pride or honest intentions to surpass a neighboring State in lavish expenditures on buildings that attract attention by their character and the purposes for which they are devoted; but these are only exceptions to the general rule, in which good sense and the practical adaptation of means to ends have generally prevailed. If any parties have been discouraged by the extravagant exceptions referred to, and have been led to favor plans which for cheapness and inconvenience are alone conspicuous, they will sooner or later learn that a medium course will prove in this as in most matters the most safe and the one yielding the best results.

Pleasant and healthy sites for hospitals can be secured, and cheerful rooms and surroundings furnished in substantial buildings at moderate cost, and with suitable care, all the benefits to the insane likely to be obtained from any place and any buildings, however costly, will be secured. In Minnesota as well as in most of the States of the Union, hospitals of medium size, located near the center of population, with abundance of land for all necessary purposes, offer all the advantages that we can reasonably expect to give these deserving "Wards of the State."

C. K. BARTLETT, M. D.

May, 1882.

THE DIFFERENTIAL DIAGNOSIS OF INSANITY AND ITS EARLY TREATMENT.

J. E. BOWERS, M. D.

The first and most important pre-requisite to the rational and successful treatment of any of the various diseases to which humanity is subject is to make a correct diagnosis, to gain an accurate idea of the existing disease, and to be able to differentiate and distinguish it from all other disorders that may manifest symptoms of a similar character. This is a truism, a proposition which no one will deny, and when we come to the consideration of mental disorders we find it no less applicable than in diseases of more common occurrence, or that are more familiar to the general practitioner.

The general and comprehensive term *Insanity* when employed to define and embrace all the varied forms of psychological disorder or of mental *unsoundness* is an exceedingly vague, pliable and indefinite one.

Hitherto all efforts to frame a definition of insanity that should embrace all the varied phases and phenomena of disordered psychological manifestation, without at the same time bringing under its shadow the greater portion of the human race, have been almost a total failure. Doctors, lawyers and judges have sought in vain for some standard by which to measure sanity, and for some infallible test of insanity. There is no one particular symptom that is universally present in every case of insanity, and that is an invariable proof of mental unsoundness when it does occur. The old dogma of the patients inability to distinguish between right and wrong, has long been abandoned, and its substitute, the theory that the presence of delusions is a sure evidence of insanity has also

been pretty thoroughly relegated to the great storehouse of exploded theories. It requires not a very extensive experience in the care and treatment of the insane to convince us that there are many persons obviously insane who never manifest any delusions. On the other hand we frequeutly meet with individuals in the community who believe in a variety of delusions, on religion, medicine, spiritualism and many other subjects who yet cannot be regarded as insane or irresponsible.

The line of demarcation between sanity and insanity is by no means sharp and well-defined, but spreads out on either side into a vast plain, which has been graphically described as "the borderland where sanity and insanity shade gradually and almost imperceptibly into each other." This domain is wide, and many there be who dwell therein during some period of their lives. Some indeed pass their whole lives in this undefined "no-mans-land." All may be alike pre-disposed to insanity by a feeble and ill-balanced cerebral organization, either inherited or acquired. The more fortunate not being subjected to any special exciting cause to co-operate with the pre-disposing causes, go on in the *uneven* tenor of their way; while those less favored may be exposed, through no fault of their own to some accidental, moral or physical shock too severe for the feeble brain to withstand, a violent paroxysm of insanity may be the result, and the patient finds his way to the asylum, over whose gate, for him, might truthfully be written Dante's words, "All hope abandon ye who enter here." It is a fact that those cases who have lingered long in this borderland, and have at last become actually insane very seldom recover. They may have remissions or lucid intervals, when they can return to their friends for a time, but they are almost certain to be returned, and to die at last in the asylum, either in a state of dementia or paralysis, if not carried off by some inter-current disease.

The direct as well as differential diagnosis of insanity in the great majority of cases may be an easy matter, but not a few are more complicated, and require more than ordinary experience and mature judgment. In the former cases the symptoms may be so numerous and obvious that any well-qualified practitioner, or even a layman may not err in the diagnosis. While occasionally cases occur upon which the wisest and most experienced experts fail to agree. In these latter cases, especially if the question of criminal responsibility, or other interests of great moment happen to be involved, as we have seen in a recent case that has engaged the attention of the whole civilized world for months, it seems absolutely impossible to reach a verdict that will be universally accepted, until some great philosopher arises wise enough to frame a definition so broad as to cover all cases of mental aberration. Such scenes as were enacted on the Guiteau trial may recur. Human judgment and opinion, at best, and even when honestly expressed, may not be infallible. The symptoms which to one man are positive evidence of insanity, may to another set of men mean only peculiarity, or natural eccentricity. By still another neurologist it might be characterized by the euphonius name of mono-hypochondria, a term recently added to the long list of names of almost infinitesimal minuteness that have issued from the same fertile brain. So minute, impalpable and almost microscopic are often the symptoms described by these terms that one is fain to believe that the observer must have been in an hypnotic state when he invented or coined them.

After every important public trial where the plea of insanity is interposed as a bar to the responsibility of the accused for the crime committed, we become more and more convinced that the present system of calling psychological experts is radically defective, and so long as both sides can call and pay their own experts, we must

naturally expect contradictory opinions, conclusions from the same testimony, of a diametrically opposite character. The best remedy that suggests itself for these evils, is to change entirely the method now in vogue, and let the court designate the experts, who shall give their opinion based solely upon the evidence, untrammelled by pecuniary interest in favor of either side.

It is not my intention to consider in this paper, the medico-legal side of the subject, nor to inquire into the degree of responsibility of the patient; but rather to study the medical aspect of the diagnosis of mental disorders, with a view to treatment and cure. The true province of psychological diagnosis, however, is not merely to determine whether a certain individual is insane, nor simply to classify the form of insanity that may exist, to say that the patient is laboring under mania, melancholia or dementia; but to discover, if possible, what is of much greater importance, the exact lesion in the brain, upon which the existing psychological disorder depends. The brain is the organ of the mind and there can be no abnormal mental manifestations without some organic lesion or functional derangement. These lesions or derangements are the real subjects of treatment, and hence must be the primary objects of psychhological diagnosis.

Recent experiments and investigations into the physiology and pathology of the human brain, both by clinical observation and comparison with lower animals, by such men as Charcot in France, and Ferrier in England, have contributed much to our knowledge regarding the localization of the functions of the brain. What the French speak of as *la belle doctrine*, the doctrine of cerebral localization, which claims that the brain is composed of a large number of nerve centres and that each of these centers has peculiar and special functions to perform, is now almost universally accepted by scientific alienists. Such facility and exactitude has been acquired in regional

diagnosis, that in many cases of brain disease, we are able from the symptoms manifested during life, whether they be disturbances of sensation or motion, to describe with wonderful certainty and precision the nature of the lesion, and in what part of the encephalon it is located. The question of cerebral localization has entered upon a new phase, entirely distinct from phrenology which had already devised for itself a fanciful localization of the mental *faculties.*

Charcot formulates in the following proposition the principles of localization: "The encephalon does not represent an homogeneous organ, a unit, but rather an association or a confederation composed of a certain number of diverse organs. To each of these organs belong distinct physiological properties, functions and faculties. The physiological properties of each of the parts being known we can deduce therefrom the conditions of a pathological state." Ferrier in his chapter on "Methods of Investigation," says: "Though the functions of the cerebrum have been negatively indicated; though it is by means of the cerebrum that we feel and think and will, the question is whether by physiological or pathological investigation we can throw any light on psychological manifestations; whether the cerebrum as a whole and in each and every part, contains within itself, in some mysterious manner, the possibilities of every variety of mental activity, or whether certain parts of the brain have determining functions."

His conclusion after careful study of the subject is that the latter question can be answered in the affirmative, and is capable of positive proof. As an illustration he cites the remarkable, and in a physio-psychological sense highly instructive condition of aphasia, in which many of the principles of localization are strikingly exemplified. The discovery made by Broca, and abundantly confirmed by others, shows that the speech centre is located in the

posterior extremity of the left third frontal convolution, and the island of Riel. This positive mapping out of the pathological lesion in cases of aphasia has proved, as it were, the master-key to the whole subject of cerebral localization.

From that point radiates all our knowledge of the subject. "I do not consider it necessary in the present state of clinical medicine and pathology to enter at length into arguments in favor of the definite localization of the lesions causing aphasia. I take it as established beyond all possibility of doubt."—*Ferrier*.

With almost equal precision can we locate the lesion in the various disturbances of motion and sensation, the different forms of paralysis. But the brain is not only an organ of sensation and motion, but of the mental faculties proper, and the alienist must be able to distinguish between normal and abnormal mental manifestations.

After the foregoing general remarks we may now take a more practical view of the subject of psychological diagnosis.

Now let us suppose that a physician in general practice who has paid no special attention to the study of mental disorders, finds himself called upon to visit an individual who by his conduct and conversation has aroused the suspicion of insanity. He may be requested to give an opinion of the patient's mental condition, and perhaps to give a written certificate. He must decide in the first place whether there is a psychological disturbance, or abnormal mental manifestation, and in the second place to determine that these symptoms are not due to accidental and temporary causes, but a prolonged departure from the healthy mental state of the individual. Here the physician may find himself surrounded by many difficulties, and an open field for the exercise of his judgment As before stated there is no fixed standard of menta soundness. Every individual must be measured by com-

parison with his former self, and it is essential that the physician should know something about the patient's conduct and habits of thought at a time when he was unquestionably sane. Before seeing the patient he should possess himself of the main facts in the case. He should inquire of the friends when the first deviations from mental health occurred, how the symptoms were manifested, whether their access was slow and gradual, or whether there was a sudden and complete perversion of the moral and intellectual nature. He should inquire whether there have been previous attacks of insanity, any severe illness, or great moral or physical shock.. He should fix in his mind the sequence of abnormal mental phenomena, and find out the patient's special delusions, or subjects uppermost in his mind. He should not only inquire into the patient's family history in reference to predisposition to mental disorders, but he may at the same time observe other members of the family, and thereby gain some valuable hints. On no subject is there so much disposition to conceal the truth as on that of heredity and family predisposition. In many cases the friends and relatives of the patient are more likely to confuse and embarrass than assist the physician in making out his diagnosis. Contradictory statements, misrepresentation and frequently concealment of the facts are resorted to by the opposing parties.

The next step in the examination is now for the physician to be introduced to the patient, which should generally be done without prevarication or flimsy pretext, through which the patient often sees the true object of the visit. The astute physician can generally manage his conversation in such a manner as to lead up gradually to the subject of the patient's delusions without alarming him or putting him on his guard.

For the practical purpose of illustrating this subject of differential diagnosis the simplest classification will suffice.

There are three fundamental and widely different conditions of mental unsoundness, represented by psychical exaltation, psychical depression and psychical debility, characterized by the familiar names mania, melancholia and dementia. These general or concrete terms are capable of sub-division for the purpose of more minute differential diagnosis, for the medical problem is not exhausted by determing the fact that a patient is maniacal, melancholic or demented. An experienced attendant may do as much. Should the patient be found excited, noisy, incoherent, profane and abusive in his language; singing, dancing, shouting, declaiming or laughing alternately, with a strangely altered voice; restless, aimless, turbulent and extravagant in his actions; so absorbed in his own rambling ideas, or carried along by the whirlwind of his passions that it is impossible to attract or hold his attention for more than a moment, these symptoms having existed only for a short time, the most natural conclusion is that we have to deal with a case of acute mania. But before accepting this conclusion as final it is well to remember the necessity of excluding certain phenomena that may be confounded with acute mania.

There may be motives for the simulation of insanity by individuals who suddenly find themselves in embarrassing circumstances, and who hope by this means to escape the consequences of some crime or indiscretion. But this form of insanity is one of the most difficult to assume, and most easily unmasked by the expert or practical alienist. It is impossible for the imposter to keep up for any length of time and continuously the semblance of excitement, violence and incoherency, indicative of this condition of raving madness. Although there are cases recorded where symptoms of acute mania were simulated for weeks and even months, they will invariably break down when put to the crucial tests, under the close and acute observation of the experienced asylum physician.

There are a number of acute febrile diseases that may be confounded with acute mania, and it is essential to differentiate it from meningitis, the delirium of typhoid fever, pneumonia, or acute rheumatism, and more frequently perhaps the delirium of intoxication. But a thorough knowledge of these diseases will readily enable the physician to reach a correct diagnosis by exclusion. The subacute and chronic forms of mania are simulated with much greater ease, and not infrequently the imposter, assuming these forms, may deceive the most expert alienist for a long time. In acute mania the patient is utterly incoherent, and has lost every vestige of self-control; in chronic mania although there may be delusions and paroxysmal accessions of maniacal incoherence and fury, there are remissions or lucid intervals when the patient can exercise a great amount of self-control, and can so successfully conceal his delusions that he may pass for sane, with those who see him only occasionally, and for a short time. These cases often destroy the happiness of their families over whom they exercise a species of terrorism, acting the part of demons when alone with their families, but conducting themselves with mildness, gentleness and exemplary propriety when any stranger or neighbor happens to be nigh. These cases often try the acumen of the medical examiner. If the patient knows or suspects the object of the visit, he is so guarded and temperate in his language, and so plausible in his explanation of his irrational words and actions, that, especially if the examination is brief, the physician may be entirely deceived and decline to sign a certificate of insanity, thereby subjecting the family to great hardships.

Melancholia is generally easily recognized. As the victim of this form of mental aberration makes no effort to conceal the workings of his mind, but rather shows a disposition to converse about his abnormal subjective sensations, and his imaginary relations to his surround-

ings, or in other words his delusions. The most marked feature of melancholia is a feeling of painful and profound depression, and great mental suffering with vague and undefined apprehensions of impending calamity. The patient misinterprets every little event that occurs around him, magnifies and distorts it, and imagines it has some reference to himself; he sees nothing to cheer him, but is ever tortured with the most painful forebodings, fearful, agitated and constantly anticipating some dire catastrophe; he sees only temporal and eternal ruin. In the the first stages of this disease there may be no delusions, but the patient may be conscious of some change in himself; he seeks for an explanation of his morbid condition, and the result may be a delusion which soon becomes tyrannical and all-absorbing. He loses interest in all his occupations, or gives up business entirely, passing his days with groans and sighs and his nights in fitful slumbers or obstinate wakefulness. It is useless to reason with an individual in this form of mental aberration; he may listen to your argument, but it makes no impression, and he soon resumes his lamentations, or he may even advance some plausible explanation,—correct conclusions from false premises. In cases of profound melancholia there is usually a corresponding derangement of the physical health; the secretions are locked up, the skin is dry and harsh, complexion sallow, the tongue is coated, bowels constipated, the appetite poor, or even a violent antipathy and utter disgust for food, which no doubt often accounts for the patient's obstinate refusal to eat, and explains his delusions that the food is poisoned. No one need mistake this for hypochondria. A writer in the Medical Record recently labored hard to abolish entirely this well-marked and long recognized form of insanity, and by arguments of no great weight tries to convince the profession and the public that the state of mind above described is stripped of all its terrors, if we can

only persuade ourselves to apply to it the sweet and high sounding name of mono-hypochondria. He is willing to call it anything but the disagreeable term insanity.

Melancholia with stupor is readily recognized as a form of mental disorder, but it must not be confounded with acute dementia, which it so strongly resembles that it has been maintained by some authors that there is no real distinction, but essentially one and the same condition. This subject has lately called forth considerable discussion especially in England, and Dr. Hack Yuke, of London, one of the most noted modern alienists, has lately sent out printed blank forms containing nearly fifty questions to obtain data for the systematic study of *acute dementia* versus *melancholia attonita.* It is not always possible to distinguish these two forms at the outset, but a careful observation from day to day will enable us to see the characteristic symptoms. In the melancholic with stupor the mind is oppressed or as it were under a cloud, with an expression of astonishment, often of fear and terror. The patient sits or stands immovable or statuelike in one place, and offers a passive resistance to being moved, so deeply absolved in some painful delusion as to make him utterly oblivious of his surroundings. He may not take any food voluntarily and often resists being fed. There are often present marked symptoms of catalepsy, and the patient assumes, or may be placed in forced, distorted and painful attitudes. When he recovers he often remembers his delusions—the mental agony through which he passed, as a horrible nightmare which he felt himself powerless to shake off.

In acute dementia all expression seems to have faded from the countenance The patient is utterly stupid and passive, seldom makes any resistance to being moved about or fed. He too is motionless and speechless, and whereas the melancholiac may stare into vacancy the dement generally stands with eyes closed. It is of sudden

access and brought on by some injury to the head, or severe moral shock, as fright or grief. If recovery ensues, which is often as sudden as the access, there is no memory of what transpired while the attack lasted.

Dementia, however, as a primary form of insanity is very rare. It is generally a secondary condition. The dements who form so large a proportion of our asylum population are the sad wrecks of individuals over whom the whirlwinds of acute mania, or the dark waves of melancholia have swept, leaving only ruin and desolation behind them.

Dementia is easily recognizable, and may be of all degrees from simple enfeeblement of the mental faculties to utter fatuity.

Epileptic, paralytic and puerperal insanity do not often prevent any serious difficulties in the differential diagnosis, but the main question to be decided by the examining physician is the advisability or necessity of sending the patient to a hospital for treatment, or to an asylum for safe keeping. In epileptic and paralytic insanity the disease is chronic in the very nature of the case, and from the moment of its development. While on the one hand the paralytic patient may be helpless and consequently harmless; on the other hand epileptics are, or may be, always dangerous; and the safety of their friends and of the community demands their sequestration and transfer to the watchful care of an asylum.

Puerperal insanity although it may be occasionally confounded with hysteria, rarely presents any great difficulties in the diagnosis. It is essentially acute in its character, and in the great majority of cases limited and curable, especially in the first attack. These are generally the saddest cases that we have to deal with, but they offer perhaps more chances for successful treatment at home than any other, and the first question the family physician has to decide is whether there is any hope of treating the

patient at home, or whether she should be sent to a hospital; and in this decision he must be guided entirely by the symptoms, the nature of the case, and the favorable or unfavorable surroundings.

General paralysis of the insane—I had intended to enter more fully into the diagnosis of this interesting, but most fatal of all forms of insanity, but owing to the length to which this paper has already grown I must leave that subject for future study, and must conclude with a few general remarks on the subject of early treatment of insanity.

TREATMENT.

Experience as well as the unanswerable argument of figures and statistics proves that recoveries from mental disorders can be expected only in proportion as the cases are subjected to early treatment; and the primary object of early diagnosis is the determination of the necessity of depriving the individual of his personal liberty, and placing him under proper care and treatment, in a well organized hospital. It cannot be denied that cases of insanity do occur that can be advantageously treated without being subjected to the restraint of hospital walls; but these are generally cases in the incipient stages, and where the circumstances and surroundings are favorable. Where the friends have abundance of means to provide good attendance, skillful medical advice, and facilities for rest and and recreation, or change of scene by travel, etc., each as in the individual case may be indicated. But how often valuable time is lost by this very mode of dilly-dallying and temporizing. Hoping almost against hope, the friends think the patient is getting better when he is getting daily worse. Contrary perhaps to the urgent advice of the family physician they put off the evil day as long as they possibly can, and finally when the patient gets entirely beyond their control, and when the disease be-

comes fixed and chronic, when all the time that was valuable has been lost, they reluctantly bring him to the hospital. If the patient does not make a speedy recovery they become very impatient and place the blame upon the hospital, the superintendent, or anywhere but where it belongs, with themselves. In my experience of fourteen years I could count up a long array of cases in which I have observed the deplorable results of this procrastination and aversion to place the patient early under treatment in the hospital. My object in this paper is not to detail the list of medicinal remedies to be applied, but rather to urge the necessity of early putting the patient in a position where proper treatment can be applied.

The treatment of insanity is moral, medical and hygienic. To the former and latter belongs the removal of the patient from the influences and surroundings under which the insanity was developed. There are many cases who recover simply after removing them from home and transferring them to the society and care of strangers in the hospital, without any special medical treatment, beyond a few occasional doses to regulate the bowels, etc. One of the main features of insanity is a perversion of the will power and a loss of self-control, and it becomes necessary for some one else to exercise these faculties for the guidance of the patient. If the patient happens to be the father or mother of a family the efforts made by the children to control in anyway the conduct of the patient often have only the effect of an irritant. The patient cannot understand why he should now submit to his children and servants who had formerly looked up to him with respect and obedience.

Our experience shows that patients can often exercise a great amount of self-control in the presence of strangers, or will submit to be controlled by them with much less irritation. It is not unusual for friends to express surprise that a case of acute mania who had been violent,

restless and boisterous at home, should become calm, quiet and serene from the moment he crosses the threshold of the hospital ward, while the melancholiac forgets his mental sufferings in the presence of perhaps greater sufferings around him. The difficulties in the way of treating at home cases of insanity, especially of acute mania are often very serious. The mental exaltation is so great that the patient fails to recognize or feel the derangement of the general health which may exist, and he will declare and protest that he is not sick, that he is just as well as any of the family around him, and that he needs no doctor. He may, perhaps, by a good deal of persuasion be prevailed upon to take a few doses of medicine, then refuse to take any more and the bottle remains untouched upon the shelf. The friends will say they had Dr. so and so, but he did him no good. To illustrate this point I might give the history of a young man who has just been discharged from this institution, recovered after nine months residence. He became insane in March, 1881, and was visited successively by all the physicians in town, including the homœopaths. I had been twice solicited to see the patient, but after an account of the symptoms and surroundings declined, and assured the attending physician it would be futile, only losing time. At last the mother, a very worthy Irish woman, came in person. She wanted me just to go and see her poor boy, and in answer to my inquiries, she gave me an account of his condition mental and physical, and of the doctors, what they thought of his case, and of the bottles full of medicine they left for him. When I asked her whether he followed their directions and took their medicine, she replied: "Never a drop of all their stuff would he take." I concluded that I was on the right track and assured the woman that the best place for her son was the hospital. The result has proved the wisdom of this advice, as the patient has made a good recovery in nine months; and it is fair

to presume that a shorter time would have sufficed for his restoration, if five months had not been lost. I have occasionally yielded to the importunities of friends to take charge of and prescribe for such cases at their homes; in a few instances, where the cases as well as the surroundings were favorable, with success; but the majority of cases are followed by failure and disappointment, owing to the difficulties of carrying out systematic treatment, and the patient sooner or later has to be committed to the hospital. This mode of temporizing often proves disastrous, and the future recovery of the patient is either forever debarred or seriously imperilled. No greater injustice can be done to an insane person in the acute stages of the disease, than to wait hoping and trusting that the patient may recover his mental equilibrium with time, and the few random and irregular doses of medicine he may be persuaded or tricked into taking. The ultimate good of the patient, and the safety and protection of the community, should be kept in view. The patient's speedy restoration to sanity, as a producing member of society, instead of a life-long burden on the State, should be first regarded; and the greatest kindness that can be done to an insane person is to place him *early* in such a position as will afford him the best chances for restoration. If this object is best attained by committing him to a hospital for insane, I say most emphatically let him be committed early.

J. E. BOWERS, A. M., M. D.

Rochester, May 8th, 1882.

NEURALGIA.

W. L. LINCOLN, M. D.

Dr. C. K. Bartlett, Chairman Committee on Nervous Diseases:

In attempting to pursue some investigation of the disease which you have asked me to report upon through your committee to the State Medical Society, I confess to a degree of timidity which is not in keeping with the subject. It is no trifling matter to decide in one's own mind how much or how little of the abnormal condition which is often classed under the one nomenclature shall be considered under the head

NEURALGIA.

Some of our prominent writers we are led to think confine the disease to a minor part of the body and locate the disease in a few nerves; while others and their name is legion lead us to infer that they consider pain wherever located must be in the nerve tissue and therefore a true *neuralgia.*

For our present purpose we do not know that a better definition has been offered than that given in our student days, and in the shortest sentence that can be constructed, "Nerve Pain," (Prof. G. B. Wood). His description to, while clear, is a pattern of trite narration. "Pain of every possible description, located in a single nerve or in parts remote from each other; flying from place to place with spasmodic remissions."

If we take our cue from the text books we may look for vascular turgescence or the reverse; for local or general increase of temperature or for nothing abnormal as

regards that symptom according as our own tenets incline us, and we will find authority to sustain our position. We may expect to encounter the malady at any period of life, and the percentage may not vary much in the different classes. The causes exciting or remote, save in those specific forms which seem to be caused by mechanical pressure or by a surgical disturbance, as when a filament gets somehow entangled in a bad cicatrix, is very gingerly dealt with by the majority of authors so far as my research has extended.

Anstie couples the pathology and etiology in one paragraph, and says: "These two subjects are inextricably mixed; firstly, because there is no sufficient basis of anatomical fact to support a 'pathology' in the ordinary sense; and, secondly, because of the obstacles in the way of deciding what is cause and what is effect. So few persons die from neuralgia that the material for study of the morbid anatomy is not abundant and the single case of Romberg where the patient, a victim of facial neuralgia was the subject of aneurismal pressure on the Gasserian ganglion."

The author observes that this one case proves nothing as to the general question of pathology.

The percentage of such cases must be exceedingly small when so notable an observer as Anstie should cite but one case.

The same writer observes what has been verified only too frequently that the disease is *eminently hereditary* in its character and probably no one will venture that special pathological conditions are liable to inure.

Leaving for the time then that form of neuralgia or "Nerve Pain" where the cause is mechanical; that is, where the nerve is violently impinged upon by some morbid growth or other known cause of disturbance; there are some sub-divisions which we are led to adopt in our queries to the members of this Association in order to

learn something of the extent and the particular expression of the malady as it existed in our own locality.

In pursuance of this enquiry we mailed a series of questions to all the members. The questions were intended to elicit the facts concerning the prevalence of the disease in the State during the past year; and as the season had been one favoring diseases of a malarious origin, the prevalence of that form of neuralgia was made the first question in detail.

The periods of growth, stability and decline formed other classes and an important question seemed to be this: Is the subject of this malady in a normal condition in other respects? Is the system well nourished? Is the blood of normal richness and supply?

I am proud to report that between 30 and 40 of the members have returned answers to the queries. Some terse and some quite explicit; and let it not be forgotten by any member of this Association that he who only replied that he had seen so little of the disease during the past year that his observations would not assist in the report or add interest to it, certainly did establish the fact that it was not a prevalent disease in his circle of practice.

Of the number who answered the queries twelve have replied to the question of malarious origin. Let me here state that I have designated the members who answered by number and not by name, and then my numbers will appear intelligible.

No. 7, "a very large part of my cases are of malarious origin;" No. 8, "one" case; No. 9, "a few;" No. 13, "a few cases;" No. 14, "one severe case combined with exposure to cold;" No. 15, "all;" No. 18, "some;" No. 23, "most;" No. 27, "most frequent cause;" No. 29, "large number;" No. 30 reports 28 cases during the year from malarious origin.

The inference then from the statistical reports seems to be that the number of cases of a malarious origin are

not a large share of all the cases, and yet they seem out of proportion when we quote again Anstie, who says: "My own experience of malarial neuralgia has been very limited; though the out-patient practice of the Chelsea Dispensary and Westminster Hospital has afforded me a large number of cases of ague in past years. I have seen only two undoubted cases of malarial neuralgia."

The queries concerning the frequency of the disease in the periods of bodily development, middle life and bodily decay, which by Anstie is given some prominence, was fairly dodged by some of our respondents, and that seems a strong hint to let the subject drop; but when we come to the factors anæmia and malnutrition as elements iu the malady there is abundant material for thought and investigation. Twenty-one have given this question attention and answers.

No. 1. "Malnutrition alone in all cases."

No. 3. "Most all of the cases I have treated come under this class."

No. 5. "Malnutrition in most cases."

No. 6. "Three cases."

No. 8. "Most of the cases come under this head."

No. 9. "Nine-tenths of my cases are of this class."

No. 14. "Large majority."

No. 15. "Great majority."

No. 16. "Large majority."

No. 17. Returned the circular, having drawn his pen through all the other questions, and opposite this question wrote "Yes."

No. 18. "Several."

No. 19. "Almost all."

No. 25. "A large per cent. were associated with anæmia."

No. 26. "Malnutrition in a large share of the cases."

No. 27. "Large share."

No. 28. "This quite frequent and difficult to overcome."

No. 29. "A good number."

No. 31. "I have most frequently observed this cause."

No. 30. "Sixty-two cases, all in females."

No. 33. "Most of the cases were suffering from malnutrition."

No. 34. "Anæmia has been a marked feature in almost all the cases I have observed."

Does not this array of testimony point to the cause of most of the cases observed and treated by the profession in our State, not as to a specific disease but as a symptom. The real condition being a lack of those vital forces and energy which bid defiance to pain.

There can be no dispute on one point, and that is this, those who labor hard in the open air, who earn their bread by the sweat of the brow, are more exempt from that condition which is called anæmic than those of indoor life. The hard muscle and the full blood vessels with red corpuscles in due proportion is the inheritance of those who labor in the sunshine with uncontaminated air filling the lungs at the rate of 16 full respirations per minute.

Were the neuralogist compelled to depend on this class for his patronage, that specialist would soon be without occupation; but that mishap is not likely to happen to him at present.

The civilization of the 19th century in this country is not without the ills which ever have and ever will accompany the good, and so the physician must ever be on the alert to learn by what art derived from scientific research and painstaking study he may so apply the remedial measures that the nation shall not suffer for lack of sound men and women; for only in a sound body can a sound mind exist, and the law of heredity is remorseless and stern. What then shall be our object and aim as conservators of health; for, each of us doing his little share, in the aggregate accomplish about all that is done for the

health of the nation. Shall we be content to hear the complaint of the patient, and with a wise look and in a grave tone tell them that "they have got the neuralgia," and prescribe "neuralgic linament" and some form of nerve sedative, the product of the "drug that enslaves," granules of morphia to enslave the victim. That is, no doubt, the plan which will bring the quickest returns, but I fear more harm has been thus accomplished than most of us would be willing to be held personally responsible for. What then you ask is to be done for those who are suffering and must have relief at once? It is vain to deny the fact that some anodyne must be called in play. It is only by these that we can control the patient, but we must never loose sight of the fact that this is not curative, nor of that other fact that the patient is not on a safe road if left to continue any anodyne prescription at discretion and beyond the watchful eye of one who can judge of the condition of the patient.

We are too apt to loose sight of the fact that rude health in man or beast can only be obtained by a large amount of regulated muscular exercise and a generous supply of good food. The former that the latter may be digested and assimilated; the latter that the tissues may be renewed day by day.

One form of nutriment, which the economy seems to demand that the nerve pang may not obtain, is derived from animal fats. It has been and still is usual to prescribe cod liver oil in cases of malnutrition, and there is not much objection to it by those who were reared on the seashore or by those who had a daily or even weekly ration of codfish, and who have acquired an appetite for that article of diet, but in the Far West and among those indigenous to the *prairie*, few can tolerate the taste who need the effect, and so it is generally abandoned before either good or harm has been done. The emulsions or

soups are not within the reach of very many who really need the elements promised by this class of remedies.

The form of animal fat which is most easily digested and assimilated by the average person who suffers from malnutrition is furnished by the bovine race, and in good butter and rich milk we find an element which ought to be appreciated by the sanitarian, for it is a true antidote for that condition of the system which favors the "nerve pang." The means by which the most of this product can be produced from a given number of acres of the domain is worthy the study and thought of the sanitarian, be he physician or layman. He indeed deserves a monument as a conservator of human life, who makes two blades of grass to grow where only one grew before, that the products of the bovine race may be doubled for the use of man; for thereby will he afford one factor in relieving the race of that condition which goes under the name of neuralgia.

Respondent No. 16 after replying to the five queries says a sixth query would have given greater latitude in answering, and that is: Heredity in this affection, and its relation to arthritis and rheumatism.

He answers this sixth query, and I am pleased to quote from his reply that his wise suggestions may form a part of this report, and may elicit some discussion by which we may profit.

"To conclude, which will answer the sixth query and be discursive and explanatory beside, we will say that in almost all our adult cases the health was not bad. The majority have impaired digestion, induced by their residence in malarial situations. In some cases heredity is mixed with acquired disposition, and of course not to the advantage of the patient. The same formula is repeated with disadvantage when the rheumatic diathesis is a gift of nature.

"We stated that from October to the present time, April 1st, was the period of our experience for the year, mainly. Our reasons are these, and may strike you as strange or theoretical, but is not the whole subject based on theory with hardly a fact to support it:

"The fall and winter and spring, each in its periodical feature has been unequal in character; temperature has shown a higher average than for years; and change has been the order of the seasons. Neuralgia followed these changes in the course of a rising temperature and lowering barometer. Disorders had their outbreak on the atmospheric and thermal repulsion.

"Our yearly visitation of epidemic catarrh had its local habitat less in the mucous and more in the serous and muscular tissues, and the consequence has been that so-called neuralgia has been rife.

"Again while predisposition was an undoubted factor in many cases meteorological conditions acted as exciting causes and gave an epidemic feature to the prevalence with as varied a habitat as there were varied constitutions. Disease cessations on the lowering of temperature and a rising index barometrically seem to confirm our conclusions in the matter, that imponderable and intangible agencies have more influence as exciting causes than all other known agencies, in those cases not traceable to *pressure of any kind*, to trophic or of traumatic origin. Even in these we cannot see why a cause, acting so generally on the whole economy, should not aggravate the local condition with results peripheral or otherwise."

If we adopt the theory of the Dr. as true in whole or in part there is greater reason why our attention should be directed to the prevention with redoubled energy.

WM. L. LINCOLN.

Report of Committee on Gynæcology.

A. W. ABBOTT, M. D., CHAIRMAN.

To the President and Members of the Minnesota State Medical Society:

Your Committee on Gynæcology would respectfully report the following summary, from answers to circulars sent to the members of the Society:

1st. That the diseases of woman are very properly attracting a more special attention among the general practitioners of medicine throughout the State.

2d. The reports to the Committee have been made by only a very small number of the members of the Society, hence the material for a report is very meager.

3d. Special diseases.

a. While a vast majority of the cases of "laceration of the cervix uteri" are reported as successfully treated by surgical interferrence, after a proper preliminary medication, yet there seems to be a growing opinion among those who have given this subject especial attention that the operation has been done unnecessarily in many cases.

Your attention is called to the suggestions of Dr. D. W. Hand, of St. Paul, upon this subject in the paper marked "A" and hints appended, also to paper of Dr. W. H. Byford, Jr., appended, marked "B."

Dr. Rosser, of Brainerd, makes note of the fact that by far the greater number of cases of this most common of

lesions occur among those who are financially unable to employ a specialist. In view of this fact and the grave consequences attending this condition as well as the frequency of its occurrence, is it not the duty of the general practitioner to prepare himself to treat this as well as the other diseases common among women himself rather than to allow them to suffer for years because no specialist is at hand or they are too poor to employ one?

b.—The treatment of inaccessible uterine fibroids whether by ergot, iodia or the galvanic current has proved unsatisfactory.

c.—Dr. Byford reports a case of removal of the uterus in paper appended and marked "B."

d.—Dr. Slagle reports case of vaginal hernia in paper appended and marked "C."

The Committee has been requested to bring before the Society for discussion the following subjects:

1. Laceration of the cervix uteri.
2. Uterine fibroid.
3. The relation of phlebitis to uterine and ovarian diseases.
4. Stone in the female bladder, fissure of the female urethra.
5. Laceration of the perineum with especial reference to the best time for operation.
6. Eversion with erosion of the os uteri simulating laceration.
7. Ovarian displacements.

Respectfully submitted,

A. W. ABBOTT,
W. W. MAYO,
WM. FRISBEE,
D. A. STEWART,
Committee.

"A."

ST. PAUL, April 29, 1882.

Dear Doctor:—Your circular letter received. I cannot state the number of cases of uterine disease I have treated the past year, but it is very large. On the whole the particular form of disease I see most frequently is endometritis, cervical or corporeal. Combined with this I am constantly seeing in women who have not borne children a troublesome anteversion or anteflexion, and in those who have had children, retroversion and prolapsus.

Uterine fibroids are wonderfully common and in my experience they are much oftener found in the anterior wall, than in the posterior. I have found no form of treatment of them satisfactory. Ergot occasionally seems to do good, but usually it fails.

In regard to Emmet's operation for laceration of the cervix uteri I am not yet prepared to express a decided opinion. I have seen many women on whom the operation has been performed, but in only two or three instances could any decided benefit be claimed. In most cases, however, the woman would *think* she was better almost from the day of operation.

Lacerations of the cervix uteri I have been observing for many years, and some of the worst cases have had apparently the least trouble from the deformity. They have gone on doing housework and having children as regularly as if nothing had happened. Other cases when the granular erosion was extensive and the leucorrhœa and backache exhausting, I have seen much relief from the local application of Churchill's tinct. iodine or nitrate of silver, and the free use of hot water injections. As far back as 1867 and 1868 my late partner Dr. Samuel Willey taught me the virtue of hot water in uterine diseases. His directions were, "never use cold water for

vaginal injections, and the hotter you use it the better." In three cases I have seen serious harm done by the use of nitrate of silver. The lacerated lips had been healed but a dense cicatrix took the place of the natural os, and the canal was so occluded there was violent pain during menstruation. I am prepared to believe we shall in a few years see much of this same trouble from the over-zealous stitching up of the cervix. Trusting these few notes will be of some service to you.

I am truly yours,

DR. D. W. HAND.

Dr. A. W. Abbott, Chairman Commitee on Gynæcology.

"B."

LACERATION OF THE CERVIX UTERI.

My experience has been that over one half of women who have borne children, and with uterine disease, have more or less laceration of the cervix uteri.

Have operated 16 times by trachelorraphy. Of these cases 7 were bilateral, 6 on one side, and 3 were stellate. Union in all the cases was perfect.

In the first five cases, the preparatory treatment consisted simply of copious vaginal injections of hot water; of these one was apparently cured, two were temporarily benefitted, the remaining two were no better.

The last eleven patients were all subjected to local treatment for endo-cervicitis (which existed in all the cases) from two to six months, before undergoing an operation. In all these cases the benefit obtained was decided and permanent. Am satisfied that in all but two of the cases, the subinvolution was, in part, at least, corrected. I believe the temporary benefit obtained in the

two cases cited, was mostly due to depletion, and rest in bed. Judging from my limited experience, if the laceration has existed for some time, and there is much coexisting disease, I do not believe an operation will cure the disease; but I am satisfied that if all disease be first cured by appropriate local treatment, the operation will tend to prevent a return of disease. I have treated a number of patients, with laceration of the cervix (without an operation) with success.

REMOVAL OF THE UTERUS.

I am unable to fully report the following case, as I depended on Dr. Greaves for the history, and some of the details, which for some reason he, as yet, has failed to send:

Miss Minnie J., patient of Dr. Wm. Greaves, of Northfield, consulted me in April, 1881, in regard to an abdominal enlargement which she first noticed, about a year previous. She had not suspected the presence of a tumor until so informed by Dr. Greaves, who advised her to see me. I could obtain no history except that patient had been gradually failing in health. Miss J. was about 40 years of age, small in stature, thin, complexion sallow.

Examination revealed a well-defined tumor filling the pelvis and abdomen to about four inches above the umbilicus. It was freely movable and gave a decided impression of fluctuation. The uterus seemed to be anteflexed, and after repeated trials I could introduce the sound but two inches. Uterus apparently did *not* move with the tumor. Examination per rectum disclosed nothing in regard to origin of tumor. Could obtain no fluid with a hypodermic syringe. I informed the patient that I believed the tumor to be either ovarian or fibrocystic of the uterus, explained their different nature, and the dangers attending their removal. After thinking the

matter over for some days, Miss J. decided to have the tumor removed, if possible, whether it be ovarian or uterine. The operation was performed (under the carbolic acid spray) May 15, 1881, at Northfield, Minn. Valuable assistance was rendered by Drs. Greaves, A. T. Conly, Dale, Scofield, and Ricker.

On exposing the tumor, the fundus of the uterus was found to be uniformly enlarged, smooth, globular, and of a gelatinous consistency, giving the impression of decided fluctuation. In appearance it resembled an ovarian tumor, being of a light pearl color. So decided was the impression of fluctuation, that I plunged a large trocar into the tumor, but obtained no fluid. As there were no adhesions I enlarged the abdominal incision and turned the tumor out of the pelvis. Both ovaries were found drawn up with the fundus. The uterus was transfixed just above the vaginal junction and tied with plaited silk in three sections. A separate ligature was applied for each ovary. The uterus was then divided above the ligatures, and all the ligatures cut short. The entire fundus of the uterus and both ovaries were removed. The cut ends of two large arteries presented in the stump and were each tied with fine silk. There was very little hemorrhage. The abdominal wound was closed with silk sutures. The patient rallied well from the operation, the only unfavorable sympton being nervous prostration. I did not see the patient again but learned that she died on the fourth day of exhaustion. There was no post mortem examination made. The tumor weighed fourteen pounds. On section it was found to be of the fibrous variety, loose textured, with some dark grumous fluid in the interspaces of the intersecting bands. No cavities were found.

WM. H. BYFORD, JR.,
Minneapolis, Minn.

"C."

WINNEBAGO CITY, Minn., April 20, 1882.

A. W. Abbott, M. D., Minneapolis, Minn.

DEAR DOCTOR: In reply to your circular sent out by Committee on Gynæcology, I have only time to report to you one rather unique case with operation and favorable results.

Mrs. A. D., aged about 38 years, married and having borne four children, presented herself to me for treatment about first of July last (1881.) She was somewhat sallow and anæmic and as large in abdomen as a woman at full term of pregnancy. Her shape indeed was very peculiar. The abdomen was pendulous and conical, projecting forwards and downwards from the umbilicus and resting, when sitting down on her knees. She had also a membranous fluctuating tumor projecting down between her thighs from the vagina, to the extent of about six or eight inches and as large as an average adult's head.

From a critical examination I found she was suffering from ascites complicated with both an umbilical and a vaginal hernia.

From the history of the case I learned that the latter had been produced while running stock to the fields some two years previous; while the former or umbilical hernia had taken place some five or six years ago at time of her last confinement; but that the fluid accumulation had taken place for the most part within last four months previous to applying to me for treatment (July, 1881.)

The general symptoms were not very grave, and she seemed to be suffering as much from the mechanical inconveniences of the tumors as anything, excepting somewhat reduced in strength.

Convinced as I soon was that nothing short of tapping

and drawing off the accumulated liquid would afford her relief, I introduced an ordinary trochar and canula into the vaginal tumor and drew off about four gallons of a sanguinolent fluid; the abdomen being bandaged and gradually shrinking down to its normal size as the fluid flowed away from the tumor below. With a uterine probe I held the bowels away from the mouth of the canulæ until all the fiuid was withdrawn from the abdomen, after which I reduced or returned the pendulus sack into the abdominal cavity. Placed the patient in horizontal position with abdomen bandaged snugly, though could not reduce the old umbilical hernia on account of adhesion and thickening of all the tissues enveloping it.

After retaining her in this position for about four weeks, and a thorough course of tonic and diuretic treatment, she gradually got on to her feet, and has resumed her household duties to a great extent without a recurrence of the dropsical accumulation in any part of her system. Indeed she has made a fair recovery without tendency apparent thus far to relapse, and as the case was (to me at least) rather unique, and the operation having proven successful far beyond my expectations, I have been induced thus to report it (through your Committee) to the profession.

Very truly,

C. G. SLAGLE.

A CASE OF PARACENTESIS VAGINALIS.

REPORTED BY EDWIN PHILLIPS, M. D., MINNEAPOLIS.

This operation was first performed by Collisin in 1775, but failed to attract much notice until 1831, when Velpeau spoke favorably of it; also, about the same time Recamier and Scanzoni advocated it on the ground that it oftener produced a radical cure of the cysts than any other method, as the cyst being opened in its lowest part could empty itself more effectually.

In America quite a number of the prominent gynæcologists have advocated the operation, but perhaps Dr. Emil Noeggerath of New York has advocated the operation and performed it more frequently than any gynæcologist in this country.

They all unite in saying that the operation is not without danger from suppurative inflammation of the sac wall and pelvic peritonitis.

Mrs. B., aged 30 years, mother of two children, youngest two years old, became pregnant the third time. When six months advanced in third pregnancy she miscarried; this miscarriage was followed by pelvic peritonitis, her convalescence was somewhat prolonged, and general ill-health seemed to be the penalty of the premature fœtal birth.

Six months after the miscarriage she came under my notice, and at that time a physical examination revealed an old pelvic peritonitis with a tumor, nearly as large as a child's head three years old, occupying a position to the right of the median line in the region of the right ovary.

In trying to differentiate between a fibrous and an ovarian cyst, I passed a probe into the uterus, it being somewhat moveable at the time.

After this examination the patient rode six miles, as the examination did not seem to be followed by much pain. The next day the patient was taken with pelvic cellulitis, hot water injections and morphine were used constantly, but the patient remained in great pain, notwithstanding the treatment, only when seemingly semi-narcotised.

Five days from the commencement of the attack Douglas' pouch pressed down toward the vaginal outlet, indicating that a fluid of some kind had accumulated or the cyst had changed its position and had fallen down behind the uterus, pressing down the cul-de-sac.

The patient was put in Sims' position on her left side and the perinæum being retracted by an assistant holding Sims' speculum, the most superficial portion of the cul-de-sac posterior to the cervix, which gave evidence of a fluid accumulation, was reached by Dr. Munde's modified hypodermic syringe, and half an ounce of fluid drawn off and tested for ovarian fluid which test indicated that the tumor *was* ovarian instead of a broad ligament cyst.

This being accomplished a medium sized aspirating needle was used, and upwards of a quart of fluid was removed with an aspirator.

This gave great relief to the patient, but it was only transitory as on the third day, the sac pressing posterior to the uterus became distended again, the same operation for removing the fluid was repeated, and about a pint of fluid was drawn off with marked relief.

On the second day following the last operation, the pressure became again perceptible, but aspiration did not give the desired relief.

At this stage of the case Dr. J. W. Murray was called in consultation; he assented to the opening of the sac in case it refilled, or if the patient was not relieved by another aspiration.

On the following morning the largest sized aspirating needle was introduced near the position where the other needles had been introduced; on withdrawal of this needle a grooved director was passed in its track, and in its groove a tenotomy knife was inserted and an incision was made large enough to pass the finger; following this we removed some fluid showing evidences of suppuration.

After slowly injecting tepid water impregnated with carbolic acid, and thoroughly removing all effete matter from the cyst, we introduced a soft rubber drainage tube and left it in the sac. This tube was removed and the sac thoroughly syringed out with carbolized warm water twice daily.

The discharge of pus was quite offensive and profuse for the period of three weeks, after which time the discharge became less, and contraction had taken place to such a degree that it was with difficulty that the syringe could be inserted to its full length.

No indications of the tumor can be detected by a physical examination; only the result of a more severe pelvic cellulitis than formerly existed remains in the region of the right broad ligament.

Report of Committee on Epidemics, Etc.

Gentlemen of the State Medical Society:

On the 17th of March the following circular was issued and sent to one hundred and fifty members of the State Medical Society from whom we have received about thirty answers. The circular is as follows:

NEW ULM, March 17th, 1882.

Dear Doctor: Will you answer as soon as you can, from your own experience, the following questions:

1st. What are you, or the members of the profession in your locality, doing in the use of Practical Hygiene as an aid in the control and treatment, especially of infectious and epidemic diseases.

2nd. What are you doing to aid the organization and work of local Boards of Health.

3d. What are the difficulties in the way of the active work of a Board of Health in your town and what measures would you suggest to remedy the same.

4th. Would a change in the method of eleeting a Health Officer, increasing the length of his term, help to make sanitary work steady and reliable.

5th. Would it not be better to have the local Health Officer appointed by the State Board of Health.

Please give us the advantage of your experience and opinions in this report. It is necessary that all reports be in my hands by April 15, 1882.

Yours truly,

CHAS. BERRY, Chairman of Committee
On Epidemics, Hygiene and Climatology.

To the first question, Dr. Dampier, of Crookston, answers that nothing has been done; as no contagious or infectious diseases have appeared, no steps have been taken in the direction indicated in the question. Dr. Rosser, of Brainerd, replies that practically nothing has been done, and hopes the State Board of Health will act in the matter. The efforts of Dr. S. P. Dodge are confined to such advice as is required when treating such cases. Somewhat similar to this are the answers of Drs. Bartlett, of St. Peter, Milligan, of Wabasha, McGaughey, of Winona, R. L. Moore, of Spring Valley, Boardman, of St. Paul, G. O. Moore, of Worthington, Hill, of Pine Island, and others. In Marshall, as Dr. Persons reports, they have quarantined so far as possible. Circulars were issued and dropped in every house and place of business giving explicit instructions. W. L. Lincoln, of Wabasha, insists on quarantine and the use of disinfectants in all cases of epidemics or infectious diseases. Dr. Ayer, of LeSueur, has succeeded in securing partial isolation and endeavors to enforce private burials. Dr. J. H. Dunn, of Shakopee, endeavors to secure as good hygienic practices as possible, and has met and made such suggestions to a committee appointed by the city council as were deemed necessary. Dr. Wedge states that in Albert Lea the profession are doing all they can, and all cases are promptly quarantined, Dr. Hand states that in St. Paul the members of the profession are working harmoniously, and that there is a general desire to instruct the people as to the necessity for practical hygiene. Every effort is made to isolate every case. The same may be said of Owatonna. In St. Peter, Dr. Collins answers that prompt and thorough isolation is insisted on in all cases of diphtheria, scarlet fever, measles, small pox, typhoid fever, etc.; "thorough disinfection of all discharges from the patient and the free use of some good disinfectant throughout the entire house;" the condition of yards,

privies, wells, etc., looked after; "no public funeral allowed of any person who had died from any infectious or contagious disease;" thorough and complete ventilation. In Red Wing, Dr. Sweney reports, the physicians are earnest in their efforts to prevent and control disease. Hygienic and sanitary means at all times and seasons advocated. In a few instances the occurrence of diphtheria had not been reported. Dr. Gronvold, of Norway, Goodhue county, replies that he informs the town supervisors of the appearance of infectious diseases, giving such information as to the cause and prevention as he deems neeessary. In Faribault, Dr. Wood reports, the council has been induced to pass a stringent ordinance on health; the Board of Health is composed of the mayor, chief of police, and a doctor elected each year, who is president of the Board; he is actively aided by the police force in the matter of sewers, privies, and any nuisance which would spread or originate disease. In addition to the preceding report, Dr. Mattocks states that physicians are required to report all cases of contagious diseases; and with diphtheria, scarlet fever and small pox they invariably placard the house and require isolation, even to the extent of placing an officer at the door.

To the second question the following report no local boards: Dampier, Dodge, Rosser and Hill. McGaughey reports "nothing." In Spring Valley, are doing all they can. In Worthington, "have not yet felt the need of more than one officer." Ayer replies that the Board has had LeSueur tolerably well cleaned up. In Marshall the Board is appointed yearly by the city council and is composed of one physician, who is health officer, and three others. Dr. Persons thinks it better to have at least two members of the Board selected from the city fathers. Dr. Bigelow, in reply, states that the Board is appointed by the mayor, with the city marshal as health officer; some of the others impede; others work; that

Owatonna is commendably clean, with a wonderful opportunity for general sanitary improvement. Dr. Dunn has endeavored to show that the committee should contain a physician and has pointed out other defects in the Shakopee system. In Albert Lea there is a physician on the Board, and the other members of the profession aid all they can. Dr. Lincoln states that the Wabasha Board is appointed by the council, and is apparently doing good work. Dr. Gronvold mentions the fact in regard to township Boards of Health and says they have authority to enforce their orders. From St. Paul, Dr. Hand reports an efficient health officer and a tolerably well organized Board of Health. Dr. Sweney reports that in Red Wing the Board is appointed by the city council; that all cases of zymotic disease are required to be reported to the Board. The medical member of the Board inspects the surroundings of the locality of the disease and adopts the measures recommended by the State Board of Health in improving the sanitary condition of the patients and their surroundings, and such other additional means as may, in his judgment, be of value. In Faribault, "the whole force on the police staff aid in health work." In St. Peter, Dr. Collins is, at present, health officer. In connection with the senior alderman of each ward, he makes "a quarterly visitation of the city and reports to the council the condition of the streets, alleys and vacant lots as to their freedom from filth, either vegetable or animal; the condition of the sewers, etc.

Replying to the third question Drs. Wood and Mattocks report no difficulty; public feeling is in favor of the Board. Dr. Bartlett reports carelessness and ignorance of individuals as the only difficulties in St. Peter. In Wabasha there is no particular bar to the work. People must know before they can be induced to do. No serious difficulties are met with in Worthington. The same may be said of Spring Valley and Albert Lea. Dr. Wedge

adds, however, that, in Albert Lea, they begin to fear their wells are becoming contaminated or poisoned from the privy vaults; that they will have to stop the use of well water or prohibit the use or construction of any more vaults and asks, "Can a whole community be compelled to use the earth closet?" No special obstacle in Marshall except lack of drainage. In Shakopee, the committee appear to be fearful of arousing the wrath of citizens; also, there is a lack of knowledge of what should be done, due to the fact that no hygienist or physician is included in the committee. The difficulties in Red Wing "are that a good many think all measures adopted for their good, when they are at the time well, are useless and that such measures are an invasion of their liberties." Dr. Sweney thinks an occasional small pox scare decidedly sanitary. In St. Peter "additional legislation is needed defining more clearly than at present, the duties and powers of the Health Officer." Dr. Hand replies that in St. Paul they fear too great an expense. Thinks it better to have the responsibility and duty on the Health Officer alone. "Give him a good salary—sufficient to enable him to devote half his time to the work and require him to be thorough in his inspections." Ignorance and prejudice are the difficulties in Pine Island. Dr. L. P. Dodge finds the chief difficulty to be "Pure innate hellishness of a certain class of people that you will find in all communities, but particularly in small towns;—a class that cannot conceive of a medical man being interested in the well being of his neighbors to the detriment of his own pocket." He has had to *compel* people to clean up their yards. He also suggests a stringent law and would make it operative "by providing the way and means to enforce it."

Replying to the fourth question, several see no necessity for a change. Dr. McGaughey thinks election objectionable. The office should be free from politics and never a

reward for party services. Any length of term is too long for an inefficient incumbent. Dr. Mattocks agrees with Dr. McGaughey, but fears towns would be unwilling to delegate authority to the State Board. They make the very human claim, "we pay our money and we take our choice." For the country Dr. Gronwold recommends that a physician be appointed by the State Board, with the approval of the town Supervisors, as Health Officer. He should preside when the town Board meets as a Board of Health. In St. Paul, Dr. Hand states, the Health Officer is now the County Physician. He thinks these officers should be separated. The Health Officer should be appointed by the Mayor and his term be three years. Dr. Collins sees no benefit in a change unless the council places in such positions persons not properly qualified. Dr. Sweney thinks the Health Officer's term of office should be limited to his efficiency, and his efficiency should be the reason of his election. An officer of a town or other organization should be elected by the town officers; the town would then be responsible for his acts. His selection by the people would be the result, most likely, of the manipulations of small politicians. Several are in favor of the appointment of the local Health Officer by the State Board and for various reasons. Dr. Milligan thinks the work would be more particularly attended to, and all could work more unitedly for the general good. Dr. Dodge would take the selection of Health Officer from the control of factions, giving the State Board the appointing power; then he would have the State Board direct and support the local Board in its work. Dr. Boardman thinks this method preferable to any other, and would have the length of his term depend on his faithfulness and efficiency. Dr. Hand thinks the appointment by the State Board hardly practicable. Dr. Hill thinks it should be made legal, and the law enforced. Dr. Persons would heartily endorse this

method as a linking together of general and local work would result. Dr. Mattocks' opinion is that, by this method, better health officers would be secured; but if the health officers were thus created State officers, they should be paid by the State, and they should enforce State laws. He fears town authorities would hardly submit to the invasion of their prerogatives; however the plan is worth a trial. Dr. Wood, of Faribault, is opposed to the selection of health officers by the State Board. Dr. Collins does not see where it would improve the matter except where improper persons are selected by the present appointing power. Dr. Lincoln would be strongly in favor of this method of selecting a health officer, provided the State Board could devote "that time and care needed to find out what man or men in each community were fitted for the work, and could clothe them with such authority as would render their attempts at sanitary reform something other than a farce." If such could be done, would have such an officer "in every township, village and city and even in every school dis-district, who should receive his appointment from, and be accountable to the State Board of Health." Would place every public hall, school-house and church under the sanitary control of such an officer. Dr. Sweney suggests the following plan, leaving its legality for others to decide. He says, "It is true that from ignorance, wilfulness or neglect, diseases are engendered and spread, and the State suffers greatly in the death of its citizens and incidental pecuniary loss. Much of this can be prevented, —much of this is caused by actions and conditions the permission of which is little short of absolute crime; in results it is more than manslaugher; it is absolute murder. In other cases manslaughter and murder are punishable. Again, town, county and State organizations are amenable to the law when neglect of duty in their officers, causes injury or death to the citizen. Should, then, neglect of a

known duty, causing disease and death, exempt the town, county or State from punishment any more in one case than in the other? If a man has his horse's leg broken in a defective bridge the town is liable for the damage. Should not the town be held liable in loss from such contagious diseases as it neglects to isolate and care for? Is disease of less moment than accident? Does the loss from one compare with the other? Make laws in the premises compulsory to the local authorities. A few lessons to the pocket will be a speedy source of intelligence. Over this town organization let the county come in when the town authorities refuse to carry out the letter of the law; if counties fail, then the State Board to take cognizance and report to the Governor, whose duty it shall be to authorize the State Board of Health to take control of the matter until the local authorities are brought to reason. The expense of all this to be charged to the recusant localities and assessed and collected in their taxes. I would have the law take effect on the citizen when he knowingly spreads disease; and the town authorities be at the expense of the prosecution. If a pecuniary fine is not collectable, a term in prison would obliterate the debt. In all cases of contagious disease, the attending physician should be required to report to the proper person as soon as the nature of the disease can be ascertained, and if of doubtful nature, the same care should be exercised as though it was really contagious. I shall be glad to give you my experience and opinion on the questions asked.

"1st question. 'What are you, or the members of the profession in your locality, doing in the use of Practical Hygiene as an aid in the control and treatment, especially of infectious and epidemic diseases?'

"When we get scared we do a great deal. We quarantine every case, we use disinfectants, we see that cellars and back yards are cleaned; why we have a sanitary com-

mittee acting under the Board of Health, who make it a business to see to these matters, look after wells and water supply, sewerage, etc. But remember we only do this when we are scared. There is nothing among us now worse than measles and mumps, and who is afraid of them? It takes diphtheria, scarlet fever, or small pox to scare us. Now, I suppose you and I, and the rest of us are sick of these clonic spasms which Boards of Health are subject to. What we want is some system that will work right along, and so keep ahead of epidemics, and not as now wait until the crisis is upon us before we act. My plan will naturally come under your 3d question:

"'What are the difficulties in the way of the active work of Health in your town, and what measures would you suggest to remedy the same?'

"The first difficulty is, we can't keep scared all the time; next lack of interest on the part of the people. Third reason, the Health Officer it expected to snoop into every dirty hole in town, and quarrel with any one he finds about said holes because he don't clean up, purely out of philanthropic feeling. You understand—the Health Officer is not paid anything. Now for the remedy which answers your 3d and 4th questions. I would have the Health Officer a member of the common council, and elected by the people, and always a physician. Do you say that throws the whole thing into politics? Just where it ought to be, and you will never get people interested in it until you do. Don't you see that the opposing party will always be around with a sharp stick? Then pay the Health Officer a regular salary,—good, fair pay, and require him to make a report every time the council meets; have it printed with other council proceedings. Now, to go a step further, make the council the Board of Health, and you have my idea for small towns or villages. Of course, I haven't the time and will not occupy yours to

argue the advantages of this plan, but simply call your attention to it.

"To your 5th question, I shall say, No, for two or three reasons. In the first place they—the State Board—cannot be expected to know who would be the best man in every town in Minnesota; and then very often the best man cannot take it; he has more than he can do already; then it takes it out of the people's hands where, I think, it belongs. We trust to the sovereignty of the people in most everything else; let us try it in this and don't forget the pay part. Pay a man and he will do something; if he is not paid who can blame him for not working? Doctor, I have written in a great hurry and am not sure that you will catch all my notions; but I have this matter very much at heart and hope some way may be devised which will be more effective than the present spasmodic plan.

In reply to your circular:—1st. Since 1872, have been doing all in my power to use hygiene as a practical art, and to persuade others to do the same. 2d. Helped to secure a more efficient organization of our local Board of health, and a physician as health officer, but no activity in the 'routine work' of a health board—i. e. keeping the city in a healthy condition by removing filth of all sorts; looking after the construction of privies, cesspools, etc., and their relation to water supply; and the other ordinary but very essential duties which belong to a sanitary authority, whose end is the 'best health for the greatest number.' It is only possible to awaken vigorous activity in the presence of small pox, that 'stirs the depths as no other disease will;' diphtheria is, I am glad to report, next; and we have had little difficulty and considerable support in enforcing seclusion of the sick. 3d. (*a*) Lack of popular appreciation of the value and necessity of the work of a local Board of Health. (*b*) Lack of interest and co-operation by physicians, much of which, I incline

to think, is due to popular apathy. If their clients demanded it, physicians would be more active. As you know, the average physician is not a reformer; he prefers to follow outside of his professional interests. He seems to regard the giving notice of infectious diseases to the Health Officer as in some sense playing 'informer' and violating his professional obligation to his clients. (*c*) The lack of a clearly defined and specific sanitary code; the existing legislation is fragmentary and permissive rather than compulsory. As a consequence, local Boards of Health are dependent upon the local authorities which create them; and their powers being defined by by-laws, are withdrawn, changed, increased or diminished by the whim of the local authority, who is rarely competent to judge what the duty of such a Board ought to be under ordinary circumstances, and are never liberal of power in funds except under the pressure of an urgent majority. The constant complaint of local health officers is, 'Our powers are not defined or sufficient,' and any attempt at systematic or thorough work is very likely to be met in such a way as to discourage such attempts for the future. And local Health Boards, urged to the performance of plain duties, reply that they 'dare not do more or spend more, even against infectious diseases, than is absolutely unavoidable, as it adds to taxes!' What encouragement is there for an honest and competent physician to assume a position, the duties of which he knows but cannot perform for lack of authority or funds? 4th. The Health Officer should be, by law, a necessary and not an optional local officer. His powers and duties should be clearly defined in the statute law of the State, and not, as at present, in the by-laws of towns, cities or villages, subject to change by a majority vote or a quorum, at any time and without notice. He should be ex-officio, chairman and executive officer of the local Board of Health. The duties and powers of such Boards

should be defined also by statute, and both the Board and health officer should be amenable to punishment for disobedience. The members of local Boards of Health should be citizens holding no other official position in the corporation. They should be selected for their public spirit, and it would be better if they could hold office for varying terms of years, so that the Board would, at no time, be without members who knew something of the work. The Health Officer should be a physician in active practice, or who has had active practice and his qualifications ought to be knowledge of public hygiene, judgment, tact and courage. 5th. I can hardly reply under the circumstances other than that I would prefer the Health Officer clected by local authority but responsible for the execution of statute law to his local authority and to the State Board of Health. If found competent, he had better be retained in office for a term of years, as it takes time for the wisest to become familiar with his duties and the peculiarities of the locality he serves. My belief is that local Boards of Health should have full power and wide discretion in dealing with the sanitary problems of their towns, and that they should be held by specific statute to the performance of this duty. As respects local Boards of Health, they should be accountable to the State Board for the performance of the duty imposed by statute. This is necessary, for instance in the case of an epidemic of small pox; unless some higher authority co-ordinates and systematizes their action anything like a successful fight would be impossible. This has already been clearly demonstrated in our State, notably in Stearns county. And further, in case of neglect of local authority to deal with infectious disease or to execute law, the State Board should, in the interest not only of that town but of the adjoining towns and the State at large, have authority to interfere and, if necessary, perform the work. This would very rarely be necessary, as

a pecuniary penalty for neglect of duty is already provided by statute.

"I am entirely opposed to centralizing sanitary work in the State. The longer I serve as the executive officer of the State Board the more thoroughly am I persuaded of the necessity and value of local Boards of Health. I would give them abundant power, but I would, with the increase of responsibility, attach proper penalties to the non-performance of duty, and have a central organization to mould the multitude of local efforts into a common and harmonious result. The local Board is the unit of public hygiene; and in proportion to its ability and efficiency is the sanitary unit of the State. May I add, Doctor, that the foundation of all hygiene as a practical art is that of the house and family, which makes the home. A few families in every town thoroughly persuaded of this, and knowing its value in warding off disease and premature death, would 'leaven the whole lump.' Education is therefore what we need. But just how, is a puzzle to me, more than before. The schools are helping very feebly but are gaining every day. What we as a society ought to do is to stir up the brethren; to make any doctor of medicine know that his very title, 'teacher,' means a neglected duty,—the duty of showing his clients not merely how to get well of a fever or a fracture, but how to prevent, (avoid) both. That was the medicine of our Father Hippocrates; it is the medicine of the very near future of our own time."

Your Committee, realizing the fact that fully fifty per cent of the deaths in the State result from zymotic causes which are preventable, are firmly convinced of the urgent necessity for such increased legislation as will materially better the workings of local Boards of Health, their clonic spasms during the prevalence of infectious and contagious diseases being utterly worthless for sanitary purposes. It is therefore recommended, that in all the

smaller cities and towns the local Health Board shall consist of a health officer, who shall be a regular physician and ex-officio president of the Board, the mayor and three councilmen. It shall be the duty of the Health Officer to preside at every meeting of the local Board of Health; and he shall at least once in three months make a written report to the Health Board, of the sanitary condition of the town or city, making such suggestions regarding the abatement of nuisances, water supply, etc., as may be by him deemed advisable. For such services he shall, in all cases, receive a fair and just compensation. It is also suggested that in towns having no local Health Board the State Board shall have full power and authority to direct and control the execution of any and all sanitary requirements in such localities. In such cases the State Board should be required to notify the County Auditor of the county in which such town or city may be situated, of the amount or expense thus incurred; and it should be made the duty of the County Auditor, on receipt of such notice from the State Board or the executive officer thereof to levy the same on the taxable property of such town in the same manner as are the taxes voted for the maintenance of common schools. The letters received from the profession at large, show a great unanimity of feeling as to the necessity of such a law, and your Committee feel confident that such a measure as here indicated, would soon result in a very decided improvement in the sanitary condition of the whole State.

C. BERRY, Chairman.

Report of Committee on Medical Jurisprudence.

C. H. BOARDMAN, CHAIRMAN.

MEDICAL EXPERT TESTIMONY.

"A froward retention of custom is as turbulent a thing as an innovation; and they that reverence too much old times are but a scorn to the new. It were good, therefore, that men in their innovations would follow the example of time itself; which indeed innovateth greatly, but quietly, and by degrees scarce to be perceived."—*Bacon.*

It would be difficult and perhaps impossible to determine the period at which skilled witnesses, such as are now known as experts, were first called upon to assist in the deliberations of courts of justice. We hear of the jury of matrons, whose function it was to investigate the case and person of the woman against whom incontinence was charged; and during the time when no better use could be found for alleged witches than burning them, those skilled in detecting the presence of evil spirits were required to point out to juries the certain signs whereby these maleficent and undesirable beings might be surely recognized; so also, 200 years before Lord Mansfield's time, in an appeal of mayhem, we learn that "the judges of our law have been used to be informed by surgeons whether it be mayhem or not, because their knowledge and skill can best discern it."

Undoubtedly from very early times in trials involving

the various arts and sciences persons having special knowledge of the matter at issue were summoned, sometimes as witnesses and sometimes rather as *amici curiæ*, that the court might avail itself of their skill in determining difficult or doubtful questions. The custom seems to have been an outgrowth of necessity, to be resorted to only upon occasions when courts and juries were at fault, rather than a deliberate product of established forms of law. It occupied for a long time this debatable ground upon the confines of the science of jurisprudence, and was apparently not regarded as an integral part of the system until the boundaries of the latter were extended by Lord Mansfield, who overruled an objection to the introduction of an engineer as an expert on the ground that his skill and training entitled him to express an opinion for the benefit of the jury; and this dictum "is generally made the text of all discussions upon the topic of expert testimony."

Courts were for a long time divided upon the question whether experts should be permitted to express opinions as well as to testify with regard to scientific facts; it seems now, however, to be a settled rule that both are admissible; and under this rule the function of an expert witness is assimilated to that of the jury. That is, there being certain conditions involved in the case upon which the jury is not competent to form a just opinion, the witness draws conclusions for them from the evidence, and these conclusions are supposed to form in part or altogether the ground of their verdict. Thus it appears that the true office of an expert is that of an interpreter; he is expected to render a faithful translation of the signs which are set before him, neither adding to nor taking from their true significance. To do this, no argument is required to prove that he must be disinterested; for otherwise he will vary the coloring in one place or deepen the shading in another, until the copy resembles the orig-

inal only in its outlines; and it is well if even these do not undergo a transformation.

But the formation of a reliable and intelligent opinion requires something more than that he who expresses it shall be free from prejudice; it is not less essential that both of the contending parties shall be heard; no interpreter, however honest, can interpret intelligently until he has heard the whole of that which is to be interpreted; no painter can copy a picture of which he has seen but half; and no expert witness is able to formulate an opinion worth hearing so long as but a portion of the *res gestæ* is submitted to him.

This arrangement, like many others equally simple and reasonable in their conception, proves to be very difficult of application. The nature of the difficulty is apparent to everyone, and requires no demonstration; one of its elements is thus pointedly set forth in an old book: * "Because that no man when he hath rashlye there spoken that commeth to his tonges ende, shall then afterwarde rather studye for reasons wherewith to defend and mainteine his first folish sentence, than for the commoditie of ye commonwealth; as one rather willing the harme or hindraunce of the weale publike than any losse or diminution of his owne existimation. And as one that would be ashamed, (which is a very folish shame,) to be counted anye thing at the firste oversene in the matter. Who at the firste ought to have spoken rather wyselye, than hastely or rashlye."

Its source, however, is more remote; it has its springs in considerations which, when exposed, are significant as revealing the wide divergence not only between the ideal and the real, but often between our avowals and our intentions. The avowed object of our system of laws and of the practice of our courts is the administration of jus-

* Sir Thomas More's Utopia.

tice; the intention of the attorney is to clear his client; or, in plainer terms, in many cases, at least, to see that justice shall *not* be administered; and this intention requires at times that he shall interpose obstacles and resort to expedients whose correspondence with the abstract principles of justice is in inverse proportion to their ingenuity. Thus expert testimony, as resorted to to-day, is perverted from its original office and becomes a hindrance instead of a help; the white light of truth is not permitted to reach the jury; it is first broken up into its primitive colors so that the observers shall receive some more and some less of the varied tints; but in no case, unless by some rare accident, are they combined so as to represent truly the object from which they proceed.

It may be remarked in passing that the tendency of our practice to-day, and notably in criminal trials, is steadily and increasingly to favor the defendant at the expense, not so much of the State, as of equity; so that the outcome of many trials represents justice and equity not as synonyms, but as antitheses. We admit that it is right that the accused should be provided with all proper safeguards against the unrestricted power of the State; we admit that it is the duty of counsel to use all diligence to protect their clients; but we also submit that when these concessions are so used that justice is defrauded and her plainest dictates set at naught, it may not be amiss to ask if some amendment or reform in the existing order might not prove of advantage to our social and political constitution. We may not look for the absolute or ideal justice, but even some small approximation thereto is worthy of our efforts and should enlist our sympathy and support; and such an approximation we believe may be made by purging expert testimony from the odium that now emasculates it, and by restoring it as far as possible to its rightful place, where it may once

more become one of the handmaids of justice and no longer be condemned to serve only the purpose of a stumbling-block.

Whether as citizens who desire the soundest possible condition in the body politic, or as physicians who have some regard for the good name of the science whose votaries we are, it becomes us to exhibit an active and intelligent interest in whatever measures seem likely to advance the interests of either and to co-operate heartily in such efforts as may be made to secure their adoption. We are told in Campbell's "Lives of the Chief Justices" that in looking through the reports of Lord Mansfield's decisions it is wonderful to see how many of them turn upon the law of evidence; that "he found it of brick and left it of marble." "It was indispensably necessary for him," says Campbell, "to overrule many dicta to be found in the old Reporters; and early in his career he said: 'We do not sit here to take our rules of evidence from Siderfin and Keble;' the whole of it was 'judge-made law,' and much of it was made by judges of very narrow understandings, who held, among other things, that Jews, Turks and infidels are not to be examined as witnesses, because they cannot kiss the Holy Gospels. Considering that before juries the verdict depends upon the impression made upon the minds of unlearned men, he was bound to exclude all evidence which was more likely to mislead than assist them."

It is fair to presume that if the powers enjoyed by Lord Mansfield were wielded by the bench of to-day, much testimony now introduced would be excluded upon the principle here laid down; that it tends to confuse and mislead rather than to assist. For it is certain that neither Turks nor infidels nor any other obnoxious class could achieve greater success in bewildering a jury than is now attained by those to whom it would appear that

special knowledge is given chiefly that out of it may come "no light, but rather darkness visible." At the risk of incurring the suspicion of monomania, I venture again, therefore, to call the attention of the Society to the necessity for a reform in our system of medical expert testimony, and to urge such agitation as may lead to its adoption.

At our last meeting there was presented to you a suggestion rather than a plan which provided that expert witnesses should be summoned by the court. Since that time this suggestion has been laid before a number of the members of our bar, and such comments as have been made upon it by some of our ablest attorneys not only confirm belief in its soundness and efficacy, but justify the hope that we may succeed in securing its introduction into our code.

The importance and interest of the subject have led, during the past six months, to an examination of such of the literature of medical expert testimony as was accessible; an examination which shows that the plan proposed to this Society last year had previously commended itself to others, both attorneys and physicians, as not only the simplest, but also perhaps the only practicable means of utilizing a species of testimony whose importance is equalled only by the disrepute into which it has fallen.*

As to the evil reputation that it has acquired, there seems to be but one opinion; upon this point we may summon many witnesses and all will testify alike.†

The situation, then, appears to be this: there is a certain good and desirable thing—nay, a thing which is declared to be indispensable; but which by reason of its environments and the restrictions which usage has placed about it, is regarded as unattainable; and so, accepting as irreversible the dictum

* See Appendix A. † See Appendix B.

that the genuine good is beyond their reach, our lawmakers write in large letters, "*Video meliora proboque, deteriora sequor,*" and then carefully construct simulacra which are introduced with much ceremony in the course of trials, that juries may consult the oracle, whose responses usually prove not less ambiguous than those of its ancient prototypes.

Few institutions cling so closely to established form as the fabric constructed of our systems of jurisprudence: not only in grave but in the lesser matters as well, precedent is written upon every stone of the stately structure; it is reared upon the firm foundations of Justinian, and the familiar "hear ye" of the sheriff is but the distant echo of the Norman robber's imperious formula. It is well that it should be so; our highest interests demand that stability should be a distinguishing characteristic of our courts and forms of law, and that their principles should be guarded by a jealous conservatism. But nevertheless we submit, in the interest both of common sense and of justice, that it is scarcely worth while to bestow upon a corpse the same respect and consideration that were accorded to it during its life; and that it is still less seemly to bow down before the idol in court, and after the adjournment to assail it with obloquy and ridicule after the fashion of Mtesa's subjects, who first prostrate themselves before their gods and then heap abuse upon them because they do not respond to their petitions.

Reform is sometimes the truest conservatism; in ethics and politics as well as in surgery it is sometimes necessary to remove that whose usefulness is gone in order that the vitality of the remaining members may not be impaired and perhaps destroyed by it. If it be true, then, that the opinions of experts are not only desirable, but in many instances indispensable in the conduct of trials, and that their usefulness is to a great extent and often altogether

neutralized by the conditions imposed upon their expression; it follows that a modification of these conditions will afford a remedy for the evils of which we complain, and reinvest the testimony of experts with the authority once belonging to it, but which it has long since ceased to exercise.*

Such a modification has been sought by various devices in the law practice of other countries with varying results; none of them, however, are consonant with our methods or with the genius of our institutions; and efficacious though the best of them may be, we cannot look for their adoption here. But the proposition made a year ago to this Society† promises to remove much of the odium inseparable from our present practice, while at the same time it offers no violence to existing forms and introduces no new or complex machinery; indeed, its simplicity is one of its strongest recommendations.

It is well, before engaging in a contest, even though a friendly one, to ascertain the weight and nature of the opposing forces; accordingly I have taken some pains to learn from several of our leading attorneys what objections are most likely to be urged against the innovation which we advocate.

The first and gravest is that the scheme is unconstitutional. While it is not our province to interpret the constitution, yet even a layman may so far trench upon the prerogative of the Supreme Court as to express the opinion that there can be no unconstitutionality in a

* "The assistance of such persons (experts) in the administration of justice is nevertheless as imperative as ever, since it is simply impossible for ordinary men to decide upon questions of abstruse or recondite learning or of technical skill without the aid of experts. It would seem, therefore, that the little esteem in which such evidence has come to be held is due rather to the method in which it is obtained than to the nature of the evidence itself. Some change must then be necessary in the law in order that the benefit of the special and superior learning and skill of individuals may be best secured to the administration of justice."—*Am. Law Review, Vol. V., p 22 S.*

† That expert witnesses shall be summoned by the court, and shall hear the evidence on both sides before expressing an opinion.

measure which in no degree abridges the rights of a defendant, and which simply provides that witnesses shall be summoned in one way rather than in another.

A second objection has been made: that such a provision would place too much power in the hands of the judiciary, and that they might be tempted to abuse it. To this it may be replied that if the character of our judges is a sufficient warrant for entrusting them with the duty of deciding impartially between rival claimants, it certainly should allay any apprehension that they may wittingly summon prejudiced or improper persons as witnesses. If we rely, and with reason, upon the integrity of the bench in its administration of the weightier matters of the law, then, *a fortiori*, may we entrust them with the lesser.

Again, it has been said that if the testimony of experts is withheld until all the other witnesses upon both sides have been heard, their introduction at that time would violate precedent and perhaps tend to cause confusion by establishing a new stage in the order of proceedings.

With regard to this, an unduly critical person might be tempted to raise the question whether there are not occasions when precedent might be violated not only with propriety, but even with advantage: but without pressing this point, it may be said that the order of calling witnesses which we advocate is no new thing; it is already a common feature of criminal trials. For instance, in a trial for murder in which insanity is made the defense, the medical witnesses for the State are called in rebuttal; or, in other words, not until all the other witnesses have been examined; and this procedure creates no confusion, but is regarded as the natural and proper course to be pursued. If then it is practicable in one class of cases, there seems to be no good reason why it may not be attainable in all.

But it is said further, that in such an event the testimony so given by witnesses so summoned would be of undue weight and would have the force almost of a verdict. This ruling may be fairly regarded as open to what our legal friends term an exception. It is not sustained by facts; the records of our courts furnish ample proof that the testimony in rebuttal does not by any means always determine the action of the jury. And as to the weight which might attach to the testimony of witnesses summoned by the court, it may be said that it would be more convincing than it is at present only so far that it would be regarded by the jury as the opinion of unbiased men who had no interest whatever in the event, instead of being, as it now usually is, an attempt to uphold a theory formed before the issue was made in the court room. If this should prove to be the case, then the objection becomes an argument for the adoption of the scheme; *cæteris paribus*, that testimony will be most reliable and will tend most to convince which is most free from all suspicion of bias, whether conscious or otherwise. If the end of justice is to ascertain the truth as the ground of her final action, the means best adapted to the search are those that should be employed; and it cannot be denied that the scales, more nicely adjusted, would respond with greater accuracy to an intelligent allotment of the weights than can possibly be expected from their random distribution: a distribution be it said, which sometimes provokes the not unfounded suspicion that the blinded Goddess has resigned to Chance the insignia of her high office, with the privilege of substituting the wildest caprice for the eternal principles by which alone her action should be determined.

It is not unlikely that closer scrutiny may reveal other alleged defects in the measure whose claims we urge; but it seems safe to say that no objection can be made against

it which does not admit of a satisfactory reply; and certainly no ill result is likely to spring from its adoption which is comparable with those which we wish to obviate. The medical profession has no extravagant anticipations in regard to the reform which it advocates; it looks for no millennial harmony, nor even for any diminution of the friction which must in the nature of things be generated by actions at law, It seeks only, on its own behalf, to be set free from the false position which it is compelled to occupy in the courts, and on behalf of the community to be permitted to offer testimony in such manner as shall contribute something to the cause of truth and justice, instead of that which is a hindrance to the attainment of either; and among the minor advantages to be hoped for from the new order of things, it may be that not the least would be that a certain dignity and dispassionateness would to some extent supersede partisanship and prejudice, and that our courts would be no longer, so far at least as concerns medical expert testimony, an arena—

> "Where oldest night
> And Chaos, ancestors of Nature, hold
> Eternal anarchy amid the noise
> Of endless wars, and by confusion stand:
> For hot, cold, moist, and dry, four champions fierce,
> Strive here for mastery."

APPENDIX A.

"A plan which has found favor with many who have examined the subject with attention, is to have the court before which the trial is to take place select a proper number of experts of established reputation, after a proper hearing of the parties, and to have these called, while the parties may still be at liberty to call others, if they see fit. The effect would be that the testimony of experts ap-

pointed by the courts would carry a weight with an impartial jury altogether greater than that of mere *ex parte* witnesses selected on account of their known predetermined opinions. It would add a dignity and importance to the office which is merited; although, as things now are, it is becoming seriously impaired from the character of those who take it up for the pay it brings, and, in the end, it would go far to exclude this latter class from a service which they have done so much to dishonor. This plan has been again and again pressed upon the attention of the Legislature of Massachusetts in successive years, but with indifferent success, although no committee has yet seen fit to favor the public with the reasons why some such measure should not be adopted to remedy an evil which every one who has given the subject a thought has not failed to perceive. In the hearings before the Legislative committees, four of the leading associations for general and medical science in the Commonwealth were represented by the very class of men who know and illustrate what belongs to the character and office of an expert witness. But the measure failed for reasons which conjecture only can supply, unless the disfavor with which the proposition has been received by some of the legal profession may have arisen from an apprehension that after such a change the language of a writer in the 'Albany Law Journal' might no longer be justified, which says: 'In fact, the calling of experts has now come to be regarded as the signal for a display of forensic pyrotechnics, beneath whose smoke and lurid glare, law, common sense, and unalloyed justice are swept away in a whirlwind of misty metaphysics.' One reason at least, why some such measure has not already been adopted, is the want of knowledge, and consequently the want of interest in the public mind. In this view of the question, every man of science, whatever may be the de-

partment in which he has made its laws a study, owes it to himself and to the dignity of his calling, saying nothing of the interests of truth and justice, to do what he can to educate and enlighten the public mind to understand and appreciate the proper character and office of an expert, upon whose testimony the property or even the life of the citizen itself may depend."—*Prof. Emory Washburn—Reports and Papers of the American Health Association, Vol. III.*

"Experts are now called and paid by the parties themselves in the suit. Nothing is more natural than that such a circumstance should tend to impress an *ex parte* character upon the evidence which they give. And though it would seem that a man's opinion or belief, founded on a particular state of facts, should be as certain and definite a thing as the facts themselves; yet experience has shown that matter of opinion, even on the most rigidly scientific subjects, is so chameleon-like—if we may so speak—in its character, that it is exceedingly likely to take its color, in the matter of legal evidence, from that of the side which has made the first overtures. The remarkable fact relating to this matter is, that the opinions of honest and conscientious men are often thus swayed and affected. Experts, then, should be selected by the court, without any interference on the part of the litigating parties. In that way all inducements to give partial or biased opinions, whether consciously or unconsciouly, will be removed. The scientific witnesses have, or should have, no interest in the suit whatever. They are called merely to give the court and jury instructions. They may be considered *amici curiæ*, and should be dignified accordingly. Some such scheme has received the attention of eminent judges and jurists."—*American Law Review, Vol. V.*

"One great step in the right direction will have been ta-

ken when the laws are so modified as to empower judges of the courts, in this, as in many foreign countries, to call to their aid medical men the best trained in the study of mental disorders, who, when called, shall have every facility for a study of the case in hand, and whose positions shall be as independent as that of the judge himself.

To an expert commisssion thus called should be assigned the task of aiding judge and jury (after due questioning by court and counsel) not only to learn what are the facts, but how to estimate and value them. One chief source of the abuse and scandals of expert testimony will be summarily removed when the doubtful privilege and duty of calling experts is taken from the interested parties and devolved instead on the court, and when the court shall cease to try hypothetical cases drawn up by counsel, rather than the actual cases themselves."—*J. S. Jewell, M. D., North American Review, January, 1882.*

APPENDIX B.

"Experience has shown that opposite opinions of persons professing to be experts may be obtained to almost any amount; and it often happens that not only many days but even weeks are consumed in cross-examinations to test the skill or knowledge of the witnesses, and the correctness of their opinions, wasting the time of the court and wearying its patience, and perplexing instead of elucidating the questions involved in the issue,"—*Justice Grier, U. S. Supreme Court.*

"I think the opinions of experts are not so highly regarded now as they formerly were; for while they often afford great aid in the determination of facts, it often happens that experts can be found to testify to any theory, however absurd."—*Chief Justice Chapman, Mass. Supreme Court.*

"I dare say he is a very respectable gentleman, and did not mean to give any evidence that was untrue. But really this confirms the opinion I have entertained,—that hardly any weight is to be given to the evidence of what are called scientific witnesses. They come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence."—*Lord Campbell.*

"In Palmer's case the Attorney General said: 'I have no language to express my abhorrence for the *traffic testimony* which, from professional pique, or for the sustentation of a particular theory, men of science, I grieve to say it, are occasionally led to offer.' The Chief Justice, in charging the jury, said: 'There were also gentlemen whose object was to secure the acquittal of the prisoner. It is in my opinion indispensable to the administration of justice, that a witness should not be turned into an advocate, nor an advocate into a witness.' And a writer in a leading English law periodical adds: 'Let it be remembered that if it should ever, unfortunately, become a well recognized fact, that there is a regular witness market where may be procured scientific, professional, or technical evidence, as it may be wanted, the most dire consequences must ensue.' "—*Prof. Washburn,—op. cit.*

"Mr. Taylor, an accredited writer upon the Law of Evidence, when speaking of experts, says: 'These gentlemen are usually required to speak not of facts but of opinions; and where that is the case it is often quite surprising to see with what facility and to what extent their views can be made to correspond with the wishes or the interest of the parties who call them They do not willfully misrepresent what they think, but their judgments become so warped by regarding the subject in one point of view, that even when conscientiously disposed, they are incapable of expressing a candid opinion. Being

zealous partizans, their belief becomes synonymous with faith, as defined by the Apostle, and is too often but 'the substance of things hoped for, but not seen.'"—*Prof. Washburn.—op. cit.*

At the meeting of the American Public Health Association, held in 1875, the following propositions, by Dr. Wolcott Gibbs, were submitted by Dr. Henry P. Bowditch, M. D., and the discussion of the subject was continued by Drs. Bowditch, Steiner and Horsford, and Professsor Ordronaux, Commissioner in Lunacy, N. Y.:

"Under the present system, as adopted in courts, the testimony of scientific men is not brought out fully and fairly, and the community suffer in consequence.

"In some other countries a different plan is pursued by which the testimony of men of the highest scientific standing is received in writing.

"It is possible to devise a plan by which the objection of scientific men to appearing in courts of law may be avoided, and by which a broad line of distinction may be drawn between scientific men and the professional experts who represent simply one side of a question."

The following resolution, offered by request of Dr. Wolcott Gibbs, was unanimously adopted by the Association:

Resolved, That a committee of five be appointed to inquire what methods of obtaining expert testimony prevail in European countries, and to report at the next meeting of the Association the recommendation of an improved plan of procedure based upon the information thus received.

NOTES ON A SUIT FOR MALPRACTICE.

J. H. DUNN.

In these days of revision of medical ethics and discussion of expert evidence problems, a review of the following malpractice suit may be *apropos:*

On page 86 *et seq.*, Minn. State Medical Society Transactions for 1881, will be found some notes bearing upon the surgical aspect of the case.

The following is a brief but complete summary of the testimony as to matters of fact in the case. There was no important disagreement in the testimony of witnesses. Both the prosecution and defense presented the same recital of facts, hence this part of the testimony may be briefly outlined.

On the 4th day of September, 1880, Mary D——, aged 16, fell from a horse and sustained an injury of the forearm. Subsequent dissection proved it to be a fracture of both bones, the radius about two inches, and the ulna about three inches below the elbow joint. The skin was no where injured, the bones were not comminuted, and one fracture was nearly transverse with slight serration; the other was somewhat oblique. She walked a few steps to the house, and her uncle was about to call medical aid, when her mother (a widow lady, uneducated and somewhat superstitious) requested him to go for Mr. Wilde, an aged English farmer who lived some miles distant, and who (as the testimony and common report show) professed extraordinary ability as a setter of bones. He professed hereditary skill, supplemented by large experience both in this country and in England, in hospital and in private practice. He had pretended to set bones for several years in this county. He was

brought, and on the way recounted his abilities and successes, and claimed superiority over eminent surgeons of Minnesota, detailing cases he had saved where "doctors" would surely have amputated. Arriving some three hours after the injury, he placed patient in a chair, ordered a man to hold her to the seat and a man and woman to pull upon the hand. He now ordered a stout young woman to wind a piece of strong canvas cloth about six inches in width around the arm, several times directing her to "pull as hard as she could," which she did with full strength and weight, both hands holding the end of the bandage, the hand being all this time pulled straight out from the shoulder. The bandage was wrapped four times around the fore-arm, over and over, extending from a little above the wrist to about two inches below the elbow. He now made eight small splints each six inches in length by one broad and one-fourth thick, of pine. These were placed equi-distant apart around forearm and over broad bandage. Over these was wrapt a bandage similar to the first, and applied in the same manner three or four times around the limb. During the procedure the girl fainted. She was now placed in bed, the limb by her side extended and prone. She soon began to suffer greatly from pain which continued to torture her excruciatingly for 48 hours, when suffering ceased. The hand and fingers began to swell, and when the pain stopped she lost forever sensation in the parts. September 6th Mr. W. "dressed" the arm, but did not loosen the bandage; in fact, his dressing consisted in taking off and replacing the little sticks, each time just as before, washing the arm above and the hand below. September 8th, four days after applying the apparatus, at the request of a neighbor he removed the inner bandage, washed forearm and replaced dressing as before. The hand remained terribly swollen and fingers outspread from distention of the skin. By the 20th of September it began to stink. "Now," said Mr. Wilde,

"it is beginning to do well; that is just what I wanted to see; she will feel better now." And on the witness stand this disciple of Paracelsus testified with evident pride that "stink eases pain," and that it is common for broken bones to smell bad. At this stage the uncle desired consultation, but the bone-setter fought it to the last, using as a lever the almost superstitious dread of the knife which people of the class he was treating generally possess, assuring them that if a doctor was called he would probably cut the arm off, and that he knew he could save it. In order to quiet the uncle he pretended to leave for St. Paul to get some medicine, which could only be obtained in large cities, and which would surely heal the arm rapidly. September 22d I was consulted. The room was on this day saturated with the odor of gangrene, but Mr. W. earnestly protested against removing the bandages lest the bones should be disturbed. The hand lay in an extended, prone position, dressed as above described. The hand and fingers were distended wonderfully with transuded serum. On removing the bandage a large area of skin and connective tissue, black and putrescent, came with it. The whole fore arm was in a dusky, boggy condition; no sensation, and not more than an inch of skin in the whole circumference of the limb could be said to live, even in a feeble manner. Bandages were entirely removed, sloughs cleared away and hot fomentations applied. On the 23d patient thought she could feel her fingers faintly for a few hours. On the 24th muscles were sloughing and cellular tissue being distended with gases, and patient had a chill. On the 25th, gangrene extending and no healthy reaction appearing, the arm was amputated two inches above the elbow. The parts covered by the bandage were much smaller than the parts above and below, which were badly swollen. No observer could for a moment doubt that the bandage had been too tight.

Mr. Peck has handed me the following summary of the defense:

1. Carelessness and negligence on the part of patient (plaintiff).

2. That there was no carelessness, negligence or want of skill on the part of the surgeon (Mr. Wilde) who set and attended to the fracture.

On the trial there was no claim of negligence or disobedience on the part of the patient, but the defense was based entirely on the question as to whether the arm was properly set and treated by Mr. Wilde, the defendant, as will be seen by the character of Dr. Murphy's testimony for the defendant.

Three witnesses were called to give expert testimony in the case: Dr. E. H. Lewis, of Chaska, and the writer for the plaintiff; for the defense, Dr. J. H. Murphy, of St. Paul; —all members of this society. As to the testimony of the writer, it was largely as to matter of fact, and very long, occupying nearly a day in the cross-examination, and he ventures to omit it entirely as his views, as there presented, are stated further on. It was intended to report verbatim the testimony of Dr. Lewis, but it would extend these notes to an intolerable length, hence one or two points only will be given, and these after a careful re-reading.

1. Dr. Lewis' testimony shows a very remarkable change of opinion from his oft-reiterated ideas as expressed to a colleague in consultation, the friends of the patient and attorney in the case; opinions held until within a few hours of taking the stand. It would seem that a due regard for the honor of our profession should render a physician so careful of his public expressions as to be capable of making his word and his oath correspond.

2. His statement that Sir Astley Cooper used splints to the radial and ulnar sides of the forearm, in addition to those on the palmar and dorsal sides, appear to me to be unfounded. If there be no authority for the state-

ment, I object to attributing such absurdity to the illustrious dead.

3. His opinion (which did not seem to occur to him until taking the witness stand) that a simple fracture of these bones at this point is the very worst of the body to treat, seems also worthy of note; for if it be true, I cannot believe but that many surgeons do not fully appreciate the calamitous nature of this fracture.

The testimony of Dr. J. H. Murphy is believed to be of sufficient importance to claim a verbatim report. I maintain that there are some very interesting as well as most important points raised in this case, and the opinions of so distinguished and experienced a member of our Society cannot fail to be accepted. It is further rendered necessary from the fact that recognizing as I do the authority with which Dr. Murphy is, and should be able to speak, I desire to question a few of the doctor's conclusions with a view of directing attention to the accidents which occasionally attend the treatment of this fracture, hoping that our Society at some future time will throw some of the much needed light upon it.

State of Minnesota, County of Scott — District Court, Eighth District.

MARY ANN DELOUGHERTY, by Michael Roach, Guardian *ad litem, vs.* GEORGE WILDE.

Before Judge McDonald and a jury, Shakopee, June 16, 17, 18, 21 and 22.

H. J. Peck, attorney for plaintiff; L. M. Brown and M. J. Severance for defendant.

TESTIMONY OF DR. J. H. MURPHY.

George E. Sly, Reporter.

Dr. J. H. Murphy, called by the defendant, sworn, testified as follows:

Direct examination by Mr. Severance:

Question. Where do you reside? Answer. St. Paul.

Ques. How long have you resided in this State? Ans. Thirty-two years.

Ques. Are you a physician and surgeon? Ans. I am.

Ques. Are you in the active practice of medicine and surgery? Ans. I have been and am now.

Ques. And have been how long? Ans. Thirty years.

Ques. Are you a regular graduate of a medical institution? Ans. I am.

Ques. Of what college? Ans. Of Rush Medical College, in 1850.

Ques. Have you practiced medicine and surgery equally, or one more than the other? Ans. More surgery for the last ten or fifteen years or eighteen years. A great deal of my business has been surgery.

Ques. State if you have had an extensive practice in surgery. Ans. I have.

Ques. Embracing all departments of surgery, or a few? Ans. Yes, sir; I have performed everything I believe, almost.

Ques. You have heard the witness for plaintiff testify, I believe? Ans. I heard all, I think. Yes, sir.

Ques. You have heard from all the witnesses a description of the fracture that is in question here, and you have seen the arm here in court? Ans. I have.

Ques. Will you state, in the first place, as to the nature of that fracture, whether it is trivial or a severe, dangerous fracture; state the nature of the fracture itself; state upon what you have heard and seen of the fracture.

I am speaking now of the fracture itself, without reference to any treatment at all, and without referring to any results,—how it is considered in surgery. Ans. I consider it a very bad fracture, one of our worst fractures of both bones in that locality.

Ques. Where does the fracture appear to be? Ans. In the upper third of the forearm, within two or three inches of the elbow joint.

Ques. Now, when you say it is one of the worst fractures known to surgery, in what respect, and why, and how is it? Ans. The formation of the arm is larger here and tapers off. And these two muscles here, if those bones are broken, they naturally belong some distance apart, and the general difficulty is to get the ends of those bones in perfect apposition and keep them there, because if you get them a little too near together you always lose your rotary motion, and there are heavy muscles over it and it is hard to tell when they are exactly right, and they are hard to keep apart.

Ques. How is it as to complications following such a fracture as that? Ans. More trouble than most any other. More suits about those bones than any other. We dread these more than anything else. I do in my practice.

Ques. What is one of the principal accidents, as medical works call it, where complications follow?

Objected to as incompetent and immaterial.

Ques. What results are there from such fractures as these were, even under good treatment?

Objected to as incompetent, irrelevant and immaterial. Objection overruled.

Ans. It is liable to inflammation, laceration, gangrene, and mortification, and even of non-union of the bones. If there is inflammation and gangrene they would not be likely to unite.

Ques. In case of high inflammation will bones unite as

readily as when there is little? Ans. When there is a good deal present, and a good deal of pus and gangrene and no outlet, and it comes in contact with the skin of the bones, by cutting you may be likely to do it.

Ques. You say this was a fracture of the radius and ulna in the upper third. How are such fractures ordinarily produced? Ans. By violence, hard, heavy force. Where there are heavy muscles over these it must be by violence. There might be a case where a man fell on the hand and it broke there, but it is more likely to break at the wrist.

Ques. If a person should fall far enough and strike on the hand, it might break both bones as those are broken? Ans. Yes.

Ques. But they are more often broken by direct violence to the part? Ans. They are more likely to break below. This is rather an unusual break. We get more of them in the forearm near the wrist, within three or four inches of wrist—but it is from direct violence.

Ques. Explain to the jury what you mean by direct violence. Ans. If a man fall from a distance and light on his hand, it would probably break the wrist, but what I mean is some hard force or blow, like falling across a log with some hard substance on it.

Ques. State what those two fractures of the bones were. Ans. One was oblique and the other nearly across, kind of ragged, sawey, so that you had to put them together at the ends. The other was an oblique fracture. This was hardly square across, a little saw like, breaking it up in pieces, so that you would have to put it together at the ends like saw teeth.

Ques. How must such a fracture as that be reduced in order to get the bones in apposition? Ans. It would be necessary to bring it out. You would pull it till you got it beyond its place, and you would have to pull it out so these pieces would come together again. The other

you can just pull out until it just goes in position. The oblique would not require so much force as the other.

Ques. In setting bones of that kind what strength is proper to use in setting the bones? Ans. Just enough to overcome the muscles. Some is much more. The heavier the man, the more muscle, the more violence and force you must use. But it always takes considerable force to pull them apart and put them in place. I know that from my own experience.

Ques. Have you treated fractures of about that kind? Ans. Yes, a great many of them. It always took so much force there that I generally give chloroform, in my own practice.

Ques. When you apply that force, is there anything improper in having some one hold the elbow? Ans. They must do it.

Ques. Is there anything improper in having some one take hold of the hand? Ans. If you haven't the power to do it. I very often do that. When I have given chloroform I can do it. I would have some person hold it here, firmly, and some one take hold of the hand, and I would adjust it here myself, and some one pulling. Sometimes I have had to have a great deal of help owing to the contraction of the muscles. I always use just enough to bring it into place whether it be much or little. There is a great deal of difference in the patients.

Ques. You heard that the young lady fainted. Ans. Yes, sir.

Ques. Is it an unusual occurrence in the reduction of such a fracture? Ans. Not very. No special objection to it if they want to faint.

Ques. They do faint, do they? Ans. Yes, sir; very often. If I knew that a patient was going to faint I would not give them chloroform. It is not uncommon for them to faint, especially young ladies.

Ques. While in a fainting condition would a patient

suffer pain? Ans. No, sir, they would not suffer. That is, when I would be doing my work.

Ques. You heard from the testimony how this fracture occurred? Ans. I did.

Ques. That she was thrown from a horse? Ans. Yes.

Ques. What degree of violence was required to cause it, much or little. Ans. Considerable.

Ques. What would necessarily result to the internal structures of the arm, fractured as it was? Ans. Anything that would produce it with a violence that would break those bones, deep-seated as they are, must of necessity bruise the muscles and inside of the arm, all the soft parts. All the soft parts must be injured.

Ques. And that would lead to what? Ans. It would get up an inflammation and irritation, and often gangrene and mortification might follow, and do sometimes, very frequently. It has occurred in my practice.

Ques. There are a large number of medical works that are standard works, are there not? Ans. Yes.

Ques. You have heard Agnew spoken of as a standard work on surgery? Ans. Yes, sir.

Ques. It is, isn't it? Ans. It will be when complete. There are two volumes out now.

Ques. Then there is Frank Hamilton's work? Ans. Yes, sir.

Ques. That is a standard work? Ans. One of the best on fractures.

Ques. There is a work called Gross' work? Ans. That is a standard work and has been for years.

Ques. How does it rank among other works? Ans. Never beaten as I know of. It is not known whether Agnew will beat it or not. It has been the standard work.

Ques. Used by medical schools? Ans. Yes, sir.

Ques. How about Liston's work? Ans. A standard work, and has been for many years. It is an English work.

Ques. When you speak of Gross' surgery you speak of his system of surgery? Ans. Yes.

Ques. How about Sir A. Cooper? Ans. One of our oldest and best writers.

Ques. His work is a standard one? Ans. Yes.

Ques. Generally used in medical colleges? Ans. Yes; it has been used and he was one of the greatest men of his age.

Ques. There are other standard works? Ans. Yes, sir.

Ques. Do those works lay down any uniform rule as to bandaging of fractured arms, or putting the splints onto a fractured arm, or a fracture of any kind? Do they lay down a uniform rule? Ans. No, sir. They give the general outlines and let every surgeon take his own course. They give some general rules, but not specific.

Ques. You have heard from witnesses of plaintiff that this arm was bandaged, and all witnesses agree on it that the bandage was a large bandage. Now, are bandages under the splints recognized by these standard works upon surgery?

Objected to and objection not sustained.

Ans. Gross, Liston and Sir A. Cooper all recommend it.

Ques. All recommend using a bandage under the splints? Ans. Yes, sir.

Ques. Others do not recommend it? Ans. Others do not object to it. Every surgeon has his own way. But it is more uniform in older times to use the bandage. A great many do not now.

Ques. And a great many do? Ans. Yes.

Ques. You mean regular surgeons? Ans. Yes.

Ques. Now, doctor, for what use is the bandage put under the splints? Ans. Properly put on it is to prevent swelling and holding the splints in position and to keep the splints from doing any damage to the soft parts, and not to allow the splints to come into contact with the skin.

Ques. You know what a roller bandage is? Ans. I do.

Ques. Have you any with you? Ans. I most always have (producing one); that is a roller bandage. It is a bandage rolled up in that way from one to three yards long; it is rolled in that way so as to be a handy mode of applying it; you can put it on much better than you can a wider one.

Ques. Now, with the same force applied, which would bandage an arm the tighter, the roller bandage or a wide bandage like that (referring to the ducking bandage)? Ans. The narrower the bandage, if it is not too narrow, the more likely it is to make it tight. It would be almost impossible with the wide one to make the arm tight.

Ques. I ask you as a surgeon whether it is hardly possible to ligate an arm with that bandage or one about that width?

Objected to.

Ques. Or the width of bandage that is testified to here?

The Court. Such a bandage as has been described by witnesses.

Ques. One reaching from the wrist nearly to the elbow; I ask if it would be hardly possible or how possible, or how probable it would be to ligate an arm with a bandage of that width? Ans. It might be done, but I hardly think it possible; don't think I could.

Ques. You say it would at least be a great deal less liable to ligate an arm? Ans. The wider the bandage the less liable to do damage; the narrower the bandage the more liable it would be to get it tight.

Ques. You say then that one of the common ways to treat a fracture is to put a bandage under the splints? Ans. A great many do that.

Ques. And you say Gross, Liston and Cooper all advocate it to be the proper way? Ans. Yes, sir; all advocate it to be the proper way.

Ques. And next to that the splints are laid? Ans. Yes, sir.

Ques. Then over them is put? Ans. A roller bandage.

Ques. Show how a roller is applied on my arm. Ans. (illustrating). You have to turn it to fit the holes of the arm.

Ques. And how do you fasten it here? Ans. Pinned, usually.

Ques. Any objection to sewing it? Ans. Not a bit; very often sew it; with good strong cloth I could put it on very tight.

Ques. How has such a bandage as this to be put on? Ans. I should have to roll it to do it. I would have to turn it in that way.

Ques. Whether it is extremely difficult to get that tight? Ans. You could not get it tight here and tight there, whole way. You might here, by pulling hard enough, but not the whole way down. But you might by putting it up pretty well, and not paying any attention to this at all. Then I would not be putting it on properly. I would have to put it on in that way, and here, you see, it would be loose. You see it is utterly impossible to get it on as tight as the other.

Ques. So you can run your fingers under there? Ans. Yes, sir.

Ques. It is not much too tight now, is it? Ans. No, and I think it is not likely to be.

Ques The roller outside of the splints is to keep them in position? Ans. Yes, sir.

Ques. What, in case of inflammation in an arm to reduce inflammation is used in the shape of lotions? Ans. Water is good. We generally use carbolic acid, and cold water sometimes. Sometimes not to let it get entirely cold.

Ques. Are there many kinds of splints used? Ans. Yes; almost every body has their own splints. We have the patent felt splints which I would not have on any account. Every body makes their own splints according to their own idea of things.

Ques. Is there any objection to using quite a number of splints if they are not too tight? Ans. No, sir, if not bound too tight; no, sir.

Ques. What is the thing to guard against in the use of bandages? Ans. The fear of cutting the circulation in the return blood vessels. You can hardly put on a bandage, even if loose, without the blood vessels of skin will be cut off.

Ques. In case of fracture like this here will there not be always swelling? Ans. Most likely.

Ques. In a fracture of this kind where would there be most swelling? Ans. If bound up, the hand would be most likely to swell.

Ques. Whether interrupted by the bandage or by the injury itself? Ans. Anything that would obstruct the circulation would do it.

Ques. In a fracture like this the circulation may be interrupted otherwise than by a bandage, may it not. Ans. Yes, sir; the bones may come in contact with the arteries or veins and cut off the circulation in that way. I have known it to be done.

Ques. In the displacement of bones, is it not likely to cause injury to the parts? Ans. If the end of the bone came in contact with the nerve it would cut off sensation. And if it came in contact with a vein or artery, the vein would be easiest obstructed, much so, because they have not the power. The blood is thrown through the arteries and the blood has to come through the veins, and the veins have not the power to carry it back as the arteries have to throw it to the extremities.

Ques. Which is the next easiest obstructed? Ans. The nerve would be the next, and the artery, from the position, would be the hardest to obstruct.

Ques. Is it possible to use a bandage at all without obstructing the superficial veins? Ans. No, sir; if you take hold with your hand it would obstruct it some. If

you put a very light bandage it would obstruct an external vein.

Ques. Could you put any splints in any way on to the arm, so that it would not in some way obstruct the superficial circulation? Ans. It must do it, more or less.

Ques. In fractures of forearm under good treatment, state if there is discoloration and swelling of the arm and hand. Ans. There is an enlargement there frequently, under the bandage, and the cuticle will have little blisters very often, but it will be superficial from the bruise or the injury.

Ques. Are such blisters very extraordinary in broken arms? Ans. No; very common to see them superficial. Not very common to see them deep-seated. We dread them.

Ques. As to gangrene, is there more liability to it in one person than in another? Ans. Oh, yes, sir; some have it from a very slight cause. Others you can pound them all to pieces and they don't have any. There is a great difference in constitutions in this respect. Some have more powerful constitutions than others. The more feeble the constitution the more likely to be those results.

Ques. Supposing the arm in a constitution of health, and a fracture here severe enough to injure the surrounding parts, and especially the veins, what would of necessity be the color of the hand for some time? Ans. Would naturally be darker; full deep red. Anything that would obstruct the circulation would make it.

Ques. In such a fracture must there not necessarily be a large amount of inflammation? Ans. I don't see how it could be avoided.

Ques. If in this case, the bandages that were testified to being used, if they were tight enough, together with the splints, to cause the mortification that is said to have resulted, where would that mortification of necessity appear? Ans. If it was from the injury, it would be around

the injured part. If from bandaging it must necessarily be at the extremities near the ends of the fingers. That is, if it is general.

Ques. That is the general rule? Ans. If the mortification is general.

Ques. I suppose the farther you go towards the extremities the more feeble the circulation? Ans. The more feeble.

Ques. In a fracture of this kind, how about pain? Ans. With that amount of bruising there would be a good deal of pain for the first twenty-four hours, necessarily. Naturally the ends of those bones could not come in contact with the muscles and nerves of the interior without producing a great deal of disturbance, and that would cause pain. After a few days we do not expect much pain in fractures. After the first inflammatory action is over, not necessarily.

Ques. Is it possible to so bandage an arm, even if properly done, that the arm will not be slightly smaller at the point of bandaging than on either side, if left on for a week or two? Ans. Of course if you put them on tight enough to hold anything, it would make it smaller under the bandage than outside of it. To be of any use it must make the parts a little smaller.

Ques. You heard witnesses of plaintiff about this injury and the results all through? And you heard the testimony about the hand being purple, puffy and shiney? Could that result occur without tight bandaging? Ans. Without having any bandage whatever, as I have seen it without bandages.

Ques. Without either bandages or splints? Ans. Yes, sir.

Ques. And produced by the interruption of the vein? Ans. Of course something must come in contact with it. They may be so injured that sloughing might begin, and gangrene follow without any appliances.

Ques. You notice that the sloughing run up to the point of rupture, didn't you? Ans. Yes, sir.

Ques. If mortification results from the injury, it would, would it not, in the vicinity of the fracture? Ans. It would be circumscribed if caused by the injury, and would be likely to commence where the parts are injured. If caused by pressure on the veins and arteries, so as to cut off the circulation, it would commence in the fingers, not necessarily in the fingers, but in some portion of the hand.

Ques. You noticed this hand (referring to amputated hand.) State if there were any indications of inflammation in it. Ans. I don't think the hand ever mortified.

Ques. But it did from the vicinity of the fracture? Ans. Undoubtedly there was pain and mortification about the place of injury. The hand was not mortified from the appearance.

Ques. The hand was not, was it? Ans. I didn't see any evidence of it.

Ques. The prominent nerves in the arm, where do they run with reference to ulnar and radial arteries and the deep veins? Ans. They run together in the same sheath.

Ques. Those veins that run alongside the arteries, called the radial and ulnar, perform the most important part in the circulation of the arm? Ans. Mostly.

Ques. The other superficial veins are near the surface? Ans. They do their labor, but are not so essential as the interior ones.

Ques. You heard the testimony of plaintiff's witnesses: assuming it to be true, you say from what mortification resulted? Did it occur from bandages and the splints? Ans. I cannot say that it did.

Ques. What in your opinion did it result from? Ans. Violence and injury.

Ques. In breaking the arm? Ans. I think that was the exciting cause; other things might have contributed to it.

Ques. Suppose arm had been bandaged too tight, from the fourth of September, and the ligation had remained, how long before the arm would have mortified? Ans. In my opinion, in three or four days there must have been mortification in the extremities.

Ques. Do you think if bandage had been tight enough to cut off circulation on the fourth of September, that mortification would certainly have resulted in three or four days? Ans. Yes; it would have resulted in four or five days.

Ques. Then you will not say that ligation caused the mortification, or the bandages, or the splints? Ans. No, sir.

Ques. But you attribute it to the injury itself? Ans. I do.

Cross-examination by Mr. Peck:

Ques. Have you seen the splints used on this arm, these splints? Ans. I have.

Ques. Did you hear the testimony as to the width of bandage? Ans. I did.

Ques. And with reference to the length of splints? Ans. Yes, sir.

Ques. Did you hear the testimony of witnesses as to the manner in which those splints were put upon the arm and their location? Ans. I did.

Ques. State if in your opinion those splints upon that arm in the manner in which they were used, with the bandage placed underneath, was good or bad surgery. Ans. I don't think they could do very much good or very much harm.

Ques. That is not the question. Is it in your opinion good or bad surgery. Ans. I would not use it.

Ques. That is not the answer to my question. I want to know if you, as an expert surgeon, consider it good or bad surgery. Ans. It is not good surgery.

Ques. Did you hear the testimony of witnesses as to the way the arm was held at the time it was set—extended straight from the body? Ans. Yes, sir.

Ques. Did you hear the testimony of the witnesses that they were ten minutes in setting that arm and pulling the bones into place while the girl was in a faint? While the man and woman were pulling on her hand and one holding her around the body and one holding her shoulders, with the arm extended thus? Ans. Yes, sir.

Ques. Was that in your opinion good or bad surgery. Ans. I should say it was not bad surgery.

Ques. Then is it good surgery? Ans. I could get a good job that way.

Ques. Is that the rational treatment of good surgeons at present? Ans. The best is to have them bent in this way (bending his own elbow by way of illustration.)

Ques. Is that what is known among surgeons as the best treatment? Among surgeons of this day? Ans. not the usual treatment; no, sir.

Ques. Was the dressing of this arm with eight small splints, applied as they were with a ducking bandage under and one over them, applied as testified to, good, or was it bad surgery? Ans. Not the most scientific.

Ques. Is it considered rational surgery at this day—in other words, is it good or bad surgery? Ans. I won't say it is bad surgery. I say you can't put eight of those splints on there to do any special harm with a broad bandage.

Ques. Have you ever seen a fracture of this character dressed with eight such splints as those placed in that position before? Do you know of it's being done? Ans. I have, just such as that. I would not say the number was just eight, but I have seen very small splints.

Ques. What is the usual dressing among surgeons for this fracture? Ans. To let it lay and not dress it at all four or five days is the best treatment.

Ques. I am speaking of the treatment when you do treat it. What is the usual treatment among surgeons? Ans. After you get it bound to its place is the best and most sensible treatment is that that is most easy to the patient.

Ques. What is the best and most usual treatment as to the splints? Ans. I use two long wide splints.

Ques. Placed on the outer and inner surface of the arm? Ans. Yes, sir.

Ques. Padded in the center? Ans. Yes, sir.

Ques. And wound around that? Ans. Yes, sir.

Ques. Isn't it the usual practice to allow the splint to pass up to the middle of the hand? Ans. All things equal.

Ques. Do you say as a surgeon that an arm cannot be bound in the manner in which it is described as being wound, with one man holding the arm at the hand, and another at the shoulder, and this girl—you heard her testimony? Ans. Yes, sir.

Ques. You saw her? Ans. Yes.

Ques. And you heard her testimony as to the strength she used in pulling on that bandage? Ans. No, sir, she was fainted.

Ques. No, I mean the girl that pulled the bandage. Ans. Yes, I heard her.

Ques. Do you say that the force which she used—that the force she testified to using—in pulling that bandage on that girl's arm of sixteen years of age—that the bandage could not be put on so as to produce what is known as partial strangulation? Ans. I think it might partially, but I don't think it could cut off the circulation.

Ques. If that bandage was put on so as to produce partial strangulation and the arm is injured and swelling intervenes, what would be the natural result in twenty-four hours? Ans. The hand would swell.

Ques. Of what color would the back of the hand be in

twenty-four hours with partial strangulation? Ans. Most likely black.

Ques. Suppose that treatment was continued as testified to by witnesses for eighteen days. Ans. It would be mortified.

Ques. With partial strangulation and the bandages taken off occasionally and put on again, in that way what would result? Ans. Then it would go on just in proportion as it was bandaged; being strangulated, if it was very slight it would be slightly red. If put on very firm it would be mortified in four days.

Ques. What causes the swelling of the skin and purple color? Ans. Cutting off the circulation.

Ques. Did you hear the testimony of Dr. Dunn in which he stated that on the 22d he visited this arm and examined it, and found muscles on the inside of the arm then sloughing and all this off (referring to amputated arm) and found the muscles over the bones intact? Ans. Yes, sir.

Ques. Assuming his testimony to be true that the muscles were intact around this portion of the arm, and from the examinations which you made from the other portions of it, do you swear, as an expert, that the swelling, sloughing and mortification of the hand was the result of the injury to the arm and that it was not the result of tight bandaging? Ans. Yes, sir, I do; the end of the hand was not mortified and it was only partly mortified then.

Ques. That is your opinion? Ans. Yes, sir.

Ques. Where does the radial artery pass on an arm—outside or inside of those muscles? Ans. They are pretty deep seated.

Ques. Where does the radial artery pass on the arm—outside or inside the muscles? Ans. Some on the inside.

Ques. Do they lay along the radius? Ans. And near the ulna.

Ques. How near? Ans. Not very far apart.

Ques. What is the name of the nerve that passes between those bones? Ans. The median.

Ques. You stated that anything that tended to bring the bones together would tend to injure that nerve, did you not? Ans. Yes, sir.

Ques. Would not the bandaging here described, and pulled in the manner described, tend to bring the bones together down upon that nerve? Ans. It might do it if it were pulled hard enough.

Ques. Is it not a practice considered as bad surgery and not as good surgery? Ans. I would not say it was bad surgery, nor I would not say it was good. Every man has his own way of doing those things.

Ques. Do you mean by that, that all good surgeons have their own way? Ans. Yes, sir; and bad ones have their way.

Ques. Do you consider this as what a good surgeon would use? Ans. I do not think that a good surgeon would use that kind of a bandage.

Ques. Do you think a good surgeon would use that kind of splints? Ans. Not a scientific surgeon.

Ques. Did you hear the testimony of Mr. Wilde about the odor that arose from the arm? Ans. Yes, sir.

Ques. What was the cause of it? Ans. I should think there was gangrene there.

Ques. In other words mortification? Ans. Yes, somewhere.

Ques. State with a bandage of that character, a man a hold of the wrist, another a hold of the shoulder, and a girl the size and strength of Miss Snow pulling the bandage, what would be the effect on the radial and ulnar arteries at the point of fracture—would they be pressed? Ans. I don't think it could be done; it could be done, but not likely; for, in the first place, you would have to roll the bandage, which would take a scientific man, to

put that on and do it. But an ignorant man would not know enough to do it. I don't think it could be done.

Ques. Do you know whether it could be done? Ans. I don't think I could do it; I have tried.

Ques. When? Ans. Yesterday.

Ques. Who did you try it on? Ans. Dr. Quinn.

Ques. Where? Ans. In my office.

Ques. Winding the bandage as hard as she could, and then holding the arm about in this position, and not removing bandages for four days, what would be the effect on the arm? Ans. Injurious.

Ques. Would it not be death to the arm in your opinion? Ans. If tight enough the hand would mortify.

Ques. What causes mortification? Ans. Cutting off the circulation.

Ques. What will cut off the circulation? Ans. Bruise, inflammation or pressure.

Ques, Isn't it true that pressure sufficient to keep blood from the parts—that mortification ensues? Ans. Yes, sir.

Ques. Isn't it true that if you bandage that arm sufficiently to keep the blood from that portion of the arm that mortification would ensue? Ans. You might put it on in a very narrow place and cut off the circulation and get it circumscribed.

Ques. Did you hear the testimony of witnesses that when Mr. Wilde came there that there was very, little swelling in the arm at the point of injury? Ans. I heard two sides to that.

Ques. You heard the witnesses for the plaintiff? Ans. Yes, sir.

Ques. From what testimony do you infer that there was a great injury there? Ans. First, from the bones being broken.

Ques. I am speaking of the injury to the muscles. Ans. From the appearance of the arm and the appearance

of the interior structure and the appearance of the bones, I take it for granted that there was great violence at the time.

Ques. Can there be great violence sufficient to break the arm and not injure the muscles? Ans. You might bruise that and get up an inflammation.

Ques. Is there any evidence in this case of great inflammation at the point of injury? Ans. Yes, sir.

Ques. What is that evidence? Ans. The condition of girl when first seen. Fainting, soreness and lying in bed, showing that the parts were very sensitive.

Ques. Is that all the evidence that you have that there was great injury at the point of fracture—because she fainted when they set the arm? Ans. No, sir.

Ques. What is it? Ans. From the manner in which the bones were broken and their appearance afterwards.

Ques. As you have seen them here in this arm? Ans. Yes, sir.

Ques. What would be the position of the upper fragment of the bone as regards the elbow, after the break? Ans. It would be drawn up.

Ques. What muscles would tilt that fragment up? Ans. The deltoid would draw it up. [Biceps].

Ques. Would you state what the proper position is in which the arm should be placed to prevent the fragments from falling into the interosseous space? Ans. The best way would be to lay it about so (illustrating.)

Ques. Was the position in which Mr. Wilde left the arm for seventeen days, with the arm extended and hand down, the position in which it should have been placed? Ans. Not the best position.

Ques. Isn't it true that it would be almost impossible to unite the bones in that position? Ans. I don't remember exactly what the position was.

Ques. Well, with arm extended and hand prone. Ans. No, sir; it was in a sling.

Ques. My question is, is it not your opinion as an expert that it would be nearly impossible to unite the bones in that position? Ans. It would, naturally.

Ques. Why? Ans. The better way is to relax the muscles.

Ques. Why? Ans. The better way would be to put it in the crooked position, so as to keep the bones apart, and relax the muscles and place it easy.

Ques. When it is placed as was done, the muscles attached to the fragments would tend to pull them apart, wouldn't they? Ans. Yes, sir.

Ques. Fainting had the same effect on the girl as if she had taken an anæsthetic? Ans. Something like it.

Ques. Isn't it true, in an ordinary case, in a girl of this age who was in a faint, and her arm placed so as to relax the muscles, you could set it with one hand? Ans. It would be better.

Ques. If you could set it with one hand, what would be the effect at the point of injury by extending it, and having a strong man take hold of it and pull for ten minutes as hard as he could pull? Ans. It would not be first rate for it; it might do some injury.

Ques. In this particular case, what muscles tend to draw the fragments together in the arm? Ans. The interosseous muslces between the two bones would bring them together.

Ques. If that muscle tends to draw the fragments together, isn't it good surgery to use an appliance here to keep the bones apart? Ans. Yes, sir.

Ques. In view of those facts, do you say that the manner in which the arm was treated, assuming plaintiff's testimony to be true, do you state that this was good or bad surgery? Ans. It is not the most injurious surgery.

Ques. I want to know whether you, as an expert, consider it good or bad surgery? Ans. It is not good.

Ques. Then it is bad, if it is not good? Ans. The treatment is not first rate.

Ques. Did you hear the testimony that when the pressure was taken off from the hand, that the swelling remained in the hand? Ans. I did not.

Ques. You did not hear the testimony that the swelling remained in the hand after the different dressings were taken off and put back on all the time from the second day? Ans. I did not so understand it.

Ques. Did you not understand that from the time this hand became swollen, and filled up on the back on Sunday, that it never left it? Ans. I think Mr. Roach said that when they took it off it got warm and never got cold afterwards.

Ques. Not as cold? Then you don't remember that the swelling remained all the time from the second day till after the amputation? Ans. Can't say I did.

Ques. Your testimony then is based on what you recollect of the testimony, is it? Ans. Yes, sir; the impression that I got is that when it was loosened it went down.

Ques. What would be the effect on the health of the girl and the tendency to blood poisoning, if the arm was in a state of mortification from September 12th to September 25th? Ans. I would expect blood poisoning if it was mortified.

Ques. If you saw evidence of blood poison, would you or would you not recommend immediate amputation? Ans. No, sir; I would not say so.

Ques. I ask you if you would amputate? Ans. I would not cut it off as long as there was any possibility of saving the hand.

Ques. In your opinion as an expert, if this arm was in a state of mortification for twelve days, and on your being called found symptoms of blood poisoning, would you or would you not amputate at once?

Question objected to as not cross-examination and sustained.

Ques. If these splints were so placed on the arm as to scarcely or not at all cover the fractured part, and wound, as they described it here to be wound, would that be good or bad surgery? Ans. Away from the fracture entirely?

Ques. So that the tops of the splints would come just to the fracture? Ans. To do any good they must be over it.

Ques. Isn't it true that if they do not cover the fracture, so as as to hold down the fractured parts near the elbow, that they would be dangerous to the arm? Ans. They might be.

Ques. Did you hear testimony as to loss of life in the other portions of the arm? Ans. Yes, sir.

Ques. Did you hear Dr. Dunn's testimony, that at the time of his visit there was only a little streak along here that was alive? Ans. Yes, sir; and the hand was alive.

Ques. What in your opinion would cause the deadening of the portion here? Ans. I think the circulation was cut off.

Redirect Examination by Mr. Severance:

Ques. But you don't say whether the injury or the bandage cut off the circulation? Ans. He did not ask me that.

Ques. You say it is the same result no matter what cut it off? Ans. Yes, sir; I said before it was the deltoid muscle that drew up that bone; I made a mistake in the name.

Ques. When you say surgery is bad surgery, do you mean that it is not the most scientific? Ans. That is what I mean, what I heard here and what I consider the best surgery.

Ques. Mr. Peck asked you about having the arm laid out straight, extended. Does it make a great deal of

difference whether it lays out straight if it is placed on a pillow? Ans. He spoke of its being drawn out straight. That is what I said was not good; it would not heal. I said to have it in the easiest position.

Ques. Don't you think it is best to have it out at full length by the side? Ans. I think so; I have a compound fracture laying that way now.

The jury returned a verdict of $100 damages for the plaintiff.

Since in all cases tried by jury the popular view of the case has some bearing, it may be stated that many citizens sympathized with Mr. W. from the fact that he is a very old man, nearly eighty years of age; that, it was claimed, the guardians of plaintiff would practically pocket the damages if awarded; that they were as a class ignorant, and often ungrateful for favors; that they knew him to be illiterate and no physician, and employed him to save cost. From my own experience with these people, I believe they were influenced by two elements, viz: first, they really believed this boaster had more "luck" than the educated physicians, so far as setting a bone is concerned. Second, they desired to save cost, but the latter I do not believe to be the more weighty reason. This reasoning is not rare in this community, in persons of far more tact and education than this family, and who would not a moment hesitate to pay the larger fee, if asked by the "lucky" boaster, in preference to the educated doctor without the luck for the small fee.

Now, I held, and still hold, that each and every step in the treatment of this arm was unskillful, unscientific and unsurgical, and in the following respects:

1. Rude and wholly unnecessary force was employed in replacing the fragments. Force exerted with the arm in an irrational position, and as a matter of fact, the fragments were never replaced.

2. The dressing was unscientific and irrational in the extreme, fulfilling no indication whatever for treatment. As a matter of fact, they were not applied at the seat of fracture, and if applied at the right point, still opposing every object of rational treatment, diametrically.

3. I claim there is no precedent in the annals of surgery for such treatment, Dr. Murphy's testimony notwithstanding.

4. The position of the hand from the first was faulty. If there had been reason for extending the forearm, which was not shown, still reason as well as usage would require the hand to be between pronation and supination, or supine and not prone.

5. Failure to remove bandages which after swelling commenced were, to say the least, too tight.

6. Keeping the sloughing matter for several days tightly bound up with the living.

7. Boasting an extraordinary and even supernatural power in curing broken bones.

8. Claiming stench to be an anæsthetic.

6. Objecting to counsel.

If ever an arm was badly treated throughout it was her's. If there ever was cause for action for malpractice it was here.

Had an educated physician, lucky enough to be wealthy, treated this same case and obtained a very good and useful forearm, but with any ways remarkable loss of the motion in pronation and supination, who doubts but that he would have stood a good show to have been mulcted to a more lively tune than $100 by the same jury?

Here we have the remarkable spectacle of a perfectly illiterate quack, with absolutely no knowledge of anatomy, setting an arm for $3.00, bandaging it so tightly and treating it so badly that no intelligent, disinterested person could doubt that no broken arm could be expected to recover under it. He appears in court and sets up as a

defense that he treated the arm well, at least as well as the average surgeon of to-day in Minnesota, and his lawyer tells the jury, far better than Sir Astley Cooper could have done in his day. He secures the services of one of Minnesota's oldest and most celebrated surgeons to testify as to the quality of the treatment, and as to his opinion of the cause of the accident. The jury returns a verdict of one hundred dollars damage for the loss of a right arm. " 'Tis true 'tis pity; and pity 'tis 'tis true."

I cannot close these remarks without summarizing a few of the leading points in Dr. Murphy's testimony. The doctor's standing in Minnesota is such that his opinions must have no small weight; yet great authorities sometimes make mistakes, which are noticed by the merest tyro; hence in a spirit of friendly criticism I venture to offer the following points:

1. If the doctor's testimony, all in all, means anything, it insinuates that this case was treated about as well as such cases are treated by the average practitioner in these days. In this case the doctor's views of the average practitioner of Minnesota is certainly incorrect. The average practitioner of surgery in Minnesota bears favorable comparison with that of any other State or country, and it is doubtful if the average be so low as he insinuates in any civilized country.

2. On twelve different occasions Dr. Murphy was asked point blank whether in his opinion this was good or bad surgery. And yet an expert surgeon of his experience, supposed to be only seeking for truth, supposed to be testifying to the whole truth and nothing but the truth, eleven times evaded the questions, and once only said it was not good surgery, and could not be made to say it was bad surgery. And Mr. Severance secured from the doctor the admission that when he says it is not good surgery and yet not bad surgery, that he means it is not the most scientific surgery. The ideal expert ought to be

able to decide with far less pumping that this surgery is either good or bad.

3. From his views that it would take a scientific man to be able to injure the arm with a wide bandage, and that an ignorant man would not know enough to apply it in a harmful manner, I would conclude that an ignoramus can not injure the sick, while the more scientific a surgeon is, the more capable of doing injury he is.

4. In one answer he says he don't think the position of the limb was the best; in answer to the next question he says he don't know just what the position was; and in the next he contradicts the lawyer and says it was in a sling. Consistency and these answers are incompatible.

5. To leave these minor matters and fall at once to the great point made by Dr. Murphy, that the arm could not have been lost by tight bandaging because gangrene did not first appear at the fingers, and for some two weeks after the first bandaging. I recognize here a very delicate and important point in such cases. In fact it is mainly on account of the interest attaching to this point that the case is reported. I maintained on the stand that there was every reason to believe, from the history of the case and the testimony, that shortly after applying the dressings, the forearm became ligated or nearly so. That the removal of the splints and the outer bandage on the second day by Mr. Wilde, gave partial relief to these symptoms, and that the great constitutional vigor of this strong young woman enabled the arm to live along in a feeble way; and probably, with good treatment, even from this time it might have survived; but each day the bandages were re-applied, not so tight as at first, but still preventing return circulation through the superficial vessels, but the deep veins still discharged their functions. At last nature, embarrassed and frustrated at every turn, gave up the ship, and sloughing began in the already boggy, half-dead arm at the points most pressed upon by the splints, the

side on which the arm lay. Mortification in a bed sore does not begin at the toes, but at the point of pressure. So here in the enfeebled, half-choked arm the constant pressure of the splints made those points first succumb which they covered, and rapidly the whole extremity was beginning to give up the struggle for existence. The doctor was very positive in his testimony that mortification must begin at the fingers if it was due to bandaging. I cannot speak from experience as he says he does, but I find the following case in *Dupuytren on Diseases and Injuries of Bones*, page 145:

"CASE X. FRACTURE OF THE RADIUS; APPARATUS APPLIED TOO TIGHTLY, AND CONSEQUENT GANGRENE; AMPUTATION AND CURE.

"Ant. Rilard, aged 44, fractured right radius while going down cellar, in February, 1828, and went at once to the Hospital of La Charite. When the fracture was reduced (it was near the base of the bone), an apparatus was applied, but fastened too tightly; and, notwithstanding the acute pain which the patient endured, it was not removed until the fourth day, when the hand was cold and œdematous, and the forearm red, painful, and covered with vessications. Leeches, poultices and fomentations were applied, and followed by some alleviation of symptoms, though there was much constitutional disturbance. At the close of a fortnight from the accident, the palmar surface of the forearm presented a point where fluctuation was supposed to exist; but when a bistoury was plunged in, no matter followed. Portions of the flexor muscles subsequently sloughed, and the skin subsequently mortified. The only recourse was amputation, which was performed six weeks after admission."

Here is an almost precisely parallel case, the tight bandage remaining as in our case, four days, sloughing oc-

curred in the same place with no mortification of fingers, and is said by this great observer to be due to tight bandaging.

But after all the question is not, might it have been due to other causes than tight bandaging, but was not the arm so treated, or maltreated, that no other result could have been expected than the one obtained? To my mind the fact that it fought out a feeble existence as long as it did is only another of the many examples of the power of the *vis medicatrix naturæ*, even when embarrassed by meddlesome would-be assistants.

5. Dr. Murphy says, "Every body has his own way;" and other points in his testimony show that he tried to carry the opinion, enlarged upon by the attorney, that there is no regularity in the treatment of this fracture—the old story,—"doctors disagree." Now, I am unable to find any serious difference in opinions as to the principles of treatment in this fracture, either at present or at any time since fractures were treated on rational principles. True, some think it safer to not use a roller, others do use it with care and skill; some use a graduated compress to keep bones apart and preserve interosseous space, others use the muscles for the same purpose; most surgeons place hand midway between the supination and pronation, others believe they get rather better results by slightly supinating the hand. Ye gods! and is this the terrible disagreement of doctors! I defy any man to prove that the different methods of treating this fracture are essentially conflicting; but on the contrary, the methods of treating it are quite as well established as are the methods of operating upon mathematical equations. If anything in surgery is settled, it is the principles of treating fractures of this kind.

6. He says he would use violence and force in setting such a fracture—if necessary—and thinks the way it was set was not bad surgery and that he could get a good job

that way. Now, he is a man of large experience and ought to know. But the inexperienced member of the Society will probably remember that *Erichsen* says, page 193, "In ordinary fractures no force is necessary for this [reduction], or should ever be employed in accomplishing it." He does not refer to violence at all—probably because in these days surgery and medicine have but little use for violence; science and art are more potent as well as more agreeable.

Lastly, does not the fact that so many accidents happen in treating fractures of the forearm deserve a more extended inquiry into the causes of such accidents, especially when so many are coupled with the grossest negligence? In the present state of affairs the quack is liable to derive a good deal of comfort from this fact, which is stated in court simply as a fact derived from experience, and for which no good and sufficient reason is given. In *Holmes' System of Surgery*, p. 860, Vol. 1, we learn, "To guard against such untoward events (non-union and loss of pronation) the splints and bandages have often to be applied tightly, in consequence of which a still greater evil, gangrene of the extremity, has occurred more frequently in this than any other injury of a similar nature, especially in children." It would be interesting to know if such bandaging is necessary or useful in guarding against such results. In short, is it not possible that the majority of such accidents, following an ordinary, simple fracture in these bones, in which the arteries and nerves are not injured, are due to carelessness or want of skill (or meddlesome surgery) in the attendant? Two cases have fallen under my notice, and I have read six cases more which in my opinion show the most conclusive evidence of neglect or bad treatment. At some future time I may review these eight cases, provided I find other cases in any number reported in detail.

Report on Consumption in Minnesota.

BREWER MATTOCKS, M. D., FARIBAULT, MINN.

In the general discussion of consumption, its habits and characteristics, old ground has been used, peopled maybe for centuries, and decimated over and over again by this terrible fungus of the human race. And an old people have been used to illustrate its study, already impregnated with hereditary taint, and situated in the midst of unhealthful surroundings. All this has placed investigation at a manifest disadvantage, and given us, etiologically speaking, at least an imperfect result.

In the past thirty years a new people, largely in the youth or prime of life, have been placed upon virgin soil, elevated above and removed from all local causes of disease, in a climate essentially tonic and life giving in its peculiarities; a people whose occupation is healthful as it is largely out of doors. Here then, if anywhere, we may reasonably expect more favorable results from investigation of this disease so far as its causation is concerned.

Ten years ago the writer gave himself to the task of investigating the prevalence of consumption in the then new State of Minnesota, and the influence of its climate upon the cure of the disease. Inasmuch as the State was then entering upon its second decade of existence it was manifestly too early to discuss the question of its immunity

from, or the influence of its climate in either causing or preventing consumption, as a generation of children had not yet matured.

At that time it was the experience of the profession of our State, that in the first stages of consumption a residence in the State was of marked benefit to the patient, and so far as I know time has not changed or modified this opinion. But whether this benefit was the result of climate alone, or by the timely and judicious change of habits and home, remains to a certain extent problematical. For the ten years preceding the opening of the Union Pacific R. R., Minnesota was held in great esteem as a pulmonary sanitarium, and I hardly exaggerate when I say thousands visited our State annually for the help or cure of pulmonary complaint. But since '71 and '72, the number of this class of invalids has grown rapidly less, until the invalid is scarcely noted as such; but still, no small number find their way hither annually in search of health. The great majority now go either south or west.

Ten years ago we made many claims to an immunity from this disease, and of course had statistics at hand to verify our claim. Experience, however, was wanting to answer questions like the following: Does cure mean immunity? Will a climate that may aid in the cure of consumption furnish at the same time immunity from it? Again, will a climate that will not only cure but furnish immunity from contraction of the disease, overcome inherited tendency or taint? What then has been our experience and what have we to offer the profession as a result thereof?

In the census returns of 1860, Minnesota stood No. 24 among her sister states of 32 in mortality from consumption; In 1870 she stood 25, and in 1880 No. 26; but yet the mortality from this disease was progressive. In 1860

one died from consumption in every 1,139 in Minnesota; in 1870, one in 958, and in 1880, one in 920 of her inhabitants. But these figures have to be qualified by the fact that the general mortality was as well progressive. In 1870 one in 7.75 of the deaths in Minnesota were from consumption, while in 1880 it was one in 10.75 from consumption. For practical purposes one must figure in estimating the proportion of deaths by consumption from population and not from general mortality. Still, general mortality has its influence. In a year where there is much inflammation of the lungs, there will be a corresponding increase from consumption.

It would be well if we could give the yearly ratio of deaths by consumption as compared with the population, but this is impossible as census returns are made but every five and ten years. So thus, in absence of those official returns, we must perforce content ourselves with individual experience. We cannot arrive at the experience of more than ten per cent. of the physicians of the State; but ten representative medical men, it is safe to infer, fairly reflect the views of a hundred, especially when they all drift in the same direction.

Experience was asked in indigenous cases only, which occurred during the year 1881, but much valuable experience has been given covering a longer period. I can give but the salient points of each letter, though I cannot but think that it would be space well occupied could I give some of them entire.

Dr. Sweeny, of Red Wing, has treated fifteen cases of indigenous consumption during the year, of which ten were adults. Two also were of Scandinavian birth or parentage. Of the fifteen five were born in the State and were female. In most of these cases a taint exists in more than one direction. The second child-birth with females is the critical period of those who inherit a pre-

disposition. In males, would put the period later in life. Red Wing is in a county of which twelve-seventeenths are of foreign birth or parentage,—largely Scandinavian.

Dr. Hewitt, of Red Wing, treated but three cases, all females of foreign parentage, and all born in the State, and healthy until menstruation. During the past fourteen years do not remember to have seen a case that was not hereditary; and a majority and more were females with disordered menstruation. Pneumonia is a frequent cause. Where heredity exists almost any cause involving lack of nutrition may occasion consumption. In these cases a rigid and systematic training should be had until adolescence; has witnessed the favorable results of such training. Believes the great number of out-of-door days is the chief excellence of our climate.

Dr. Jones, of Red Wing, has treated forty-two cases, of which number twenty-nine were Scandinavian; seventeen natives of this State or the near State of Wisconsin. Most of these cases originated in catarrh or pneumonia. Believes the want of malaria, good drainage, and sunshiny days account for the lack of consumption in our State as compared with others, but that when local causes do exist sees no difference between this and the northern part of Ohio.

Dr. Coon, of Northfield, has treated but one case, and his twenty-five years of Minnesota experience teaches him that indigenous cases are rare.

Dr. Hill, of Pine Island, has seen but few cases, and in those of healthy parents none. "What is a little remarkable, children who inherit the disease frequently have fair health till child-birth; males live longer."

Dr. Slagle, of Winnebago City, has treated in the past year twelve cases; but two natives of Minnesota. "In an experience of twelve years, should say ten per cent. of my cases are indigenous."

Dr. Bigelow, of Owatonna, knew of three native cases during the year. Dr. Rosser, of Brainerd, treated ten cases,—not one born in the State. Dr. Gaskill, Marine, treated three unmarried cases, born in Sweden. Dr. Murdock, of Taylor's Falls, treated seven cases, two born in Minnesota. Dr. Moore, Spring Valley, treated but one case, female, twenty-four, native. Such cases he thinks rare.

Dr. Wedge, of Albert Lea, in the past twenty-five years has treated two hundred cases, two-thirds of which were among the Scandinavians. Don't remember to have had one born in the State. In cases that appear to have originated here bad hygiene and heredity generally the cause, or poor nutrition in early life.

Dr. Dunn, of Shakopee, has had four cases. Three natives, notices few, or no cases among the Germans, although half the population is German. Dr. Bartlett, of Insane Asylum at St. Peter, lost five cases from 600 inmates, three born in the State. The disease much less frequent than in the eastern hospitals.

Other letters of the same general tenor have been mislaid, but the facts were first tabulated. Twenty-one physicians report of indigenous cases 121, of which number 55 were born in the State.

I doubt not that the reports thus epitomized differ in no material degree from the experience of eastern physicians. Heredity, bad hygiene, and faulty nutrition lay the basis of the disease, and want of care—which is notorious with consumptives—complete it. It may be of interest to know that of a population 780,773 in 1881, our native 513,097 against a foreign population of 267,276, of which number 107,770 were Scandinavian, a people peculiarly prone to strumous diseases.

The following table will show that during the past ten years the ratio between consumption and general mortality has not varied materially:

1870,	one death	by	consumption	in 7.75
1871,	"	"	"	10.50
1872,	"	"	"	10.50
1873,	"	"	"	10.50
1874,	"	"	"	10.75
1875,	"	"	"	9.75
1876,	"	"	"	9.50
1877,	"	"	"	9.00
1878,	"	"	"	9.50
1879,	"	"	"	10.00
1880,	"	"	"	10.75

To show the fallacy of tables like the above comparing consumption with other diseases, I would say that while in 1870 the mortality from consumption was one in 7.75 deaths, the next year it was more than a third less; one in 10.50. This is to be accounted for by the fact that the general mortality was excessive while the consumption was nearly the same in 1871.

1870, general mortality 3,526; consumption 459.

1871, general mortality 4,695; consumption 445.

The only true way to arrive at the prevalence of consumption is to compare populations and not general mortality with the death rate by consumption.

In summing up the statistical and experimental material at my disposal for the decade just past, I have little to add. I have given the facts as I have been able to obtain them, and from these I have few conclusions to draw, and I present them at this time more as a basis for the investigations of the future than for their present worth.

APPENDIX.

While engaged in studying the prevalence of consumption in Minnesota, I went to no little pains to investigate its prevalence in other parts of the Union, in the hopes

that light would thereby be thrown upon the locality under consideration. It is needless to say that in one vast stretch of territory, like the American continent, it is folly to select any one State, bounded by arbitrary lines, to the exclusion of others, to either prove a theory or advance the present knowledge of consumption.

The etiology of consumption is still an open question, and the American need not go abroad to pursue its study. Here are to be found most of the climates of the world, as well as race and civic conditions. It is to be regretted, however, that we can but make decennial investigations, rather than note its progress year by year; but such is the fact. And it is still further to be regretted that even these returns are so faulty in some instances, but it is fair to suppose that inaccuracies are equally distributed. We must, perforce, accept the census returns, else we are at sea, statistically speaking. Again, from decade to decade the nosology of disease changes with the schools of thought. What was consumption twenty years ago, with many practitioners, is now chronic bronchitis. To the exact student, I feel it but a duty to caution him against errors of calculation, or transcribing, or of the printer. Even the clerks of the census office are fallible, as I have found to my cost; and last, but not least, a physician is a poor mathematician. Therefore, verification of figures should always precede the erection of a hypothesis or the enunciation of a theory.

With this introduction, I present some rather striking if not startling tables.

TABLE No. 1.

The General Mortality of the United States for the Census Years 1860, 1870, and 1880.

(Proportion of deaths to the living.)

1860		1870		1880	
Arkansas	1 in 49	Louisiana	1 in 50	Arkansas	1 in 54
Louisiana	56	Missouri	61	Maryland	55
Texas	63	California	62	New York	57
Mississippi	64	New York	63	Rhode Island	58
Missouri	67	Pennsylvania	67	Missouri	58
Kansas	68	Texas	73	Tennessee	59
Kentucky	70	N. Hampshire	74	New Jersey	61
Rhode Island	70	Illinois	75	Virginia	61
Virginia	71	Rhode Island	79	N. Hampshire	62
South Carolina	72	Connecticut	79	Indiana	63
Tennessee	73	Arkansas	79	South Carolina	63
N. Hampshire	73	Delaware	80	Louisiana	64
Connecticut	74	Maryland	80	Texas	64
Alabama	75	Virginia	80	North Carolina	65
Florida	78	Maine	81	Kansas	65
North Carolina	78	Kansas	82	Vermont	66
Georgia	82	Florida	83	Delaware	66
Maine	82	New Jersey	85	Pennsylvania	67
New York	82	Georgia	87	Maine	68
Illinois	88	Tennessee	89	Connecticut	68
Indiana	88	Ohio	90	Kentucky	68
New Jersey	89	Mississippi	90	Illinois	68
Delaware	90	Kentucky	92	Alabama	70
Iowa	93	Alabama	92	Georgia	71
Maryland	93	Vermont	94	California	75
Vermont	93	Indiana	95	Ohio	75
Ohio	94	South Carolina	95	Missouri	78
Pennsylvania	96	North Carolina	101	Wisconsin	82
Michigan	101	Michigan	105	Michigan	83
California	102	Wisconsin	105	Iowa	83
Wisconsin	108	Iowa	125	Florida	85
Minnesota	155	Minnesota	125	Minnesota	86
Massachusetts	57	Massachusetts	56	Massachusetts	53

There is nothing of particular interest in the above table except the grouping. Many will be surprised to see Maine and Georgia side by side, and Vermont with Alabama, or Iowa with Florida. A certain consistency will be noticeable in this table, that gives one the impression of its correctness. No facts can be derived or theories predicated in decennial mortalities. For instance, in Iowa, nothing is to be learned from the fact that in 1860 1 in every 93 died, against 1 in 125 in 1870, and 1 in 83 in 1880. I must confess, however, to some surprise at the equality of mortality between the North and South. I had supposed that the mortality of the latter was much greater.

TABLE No. 2.

SHOWING THE PROPORTION OF THE MORTALITY FROM CONSUMPTION TO THE GENERAL MORTALITY.

	1850	1860	1870	1880
Vermont	4.1	4.33	5.	6.25
Maine	4.4	3.50	3.75	5.25
New Hampshire	4.5	3.75	4.50	7.25
RhodeIsland	4.7	4.50	5.	6.75
Massachusetts	5.6	4.845	5.157	5.207
Connecticut	5.9	4.75	5.50	6.75
New York	6.8	5.75	5.75	6.75
Michigan	6.8	6.25	6.	7.50
California	1.	7.25	7.25	6.50
New Jersey	7.	5.50	5.75	7.
Pennsylvania	8.1	6.	6.7	7.75
Maryland	8.7	6.25	5.75	7.
Minnesota		7.33	7.75	10.75
Wisconsin	10.	7.75	7.50	9.50
Delaware	10.2	6.25	5.25	6.
Ohio	11.3	7.	5.50	7.
Kentucky	11.6		5.75	6.
Virginia	11.7	10.50	7.25	8.
Indiana	11.8	8.50	6.25	7.75
Iowa	12.8	7.25	6.25	7.75
Illinois	13.5	9.75	9.25	10.75
Tennessee	13.5	10.50	6.	6.75
Kansas		13.50	11.	10.25
North Carolina	18.	16.50	8.50	10.
Louisiana	18.6	14.75	10.25	9.50
Missouri	18.6	14.75	10.75	10.75
Florida	21.6	17.75	17.25	12.
Arkansas	22.8	26.75	14.	15.50
Alabama	25.8	21.50	14.	18.50
Mississippi	26.1	22.	13.25	11.33
Texas	27.2	22.25	16.50	15.25
South Carolina	30.	25.	11.25	16.33
Georgia	35.5	26.	15.50	12.50

Writers on consumption almost invariably, when speaking of its mortality, compare it with the mortality of other diseases. While this comparison may gratify curiosity, it is not of practical interest. An excessively hot July or August may almost double the mortality in a given city, but the death-rate is increased only in one direction, and that directly opposite to consumption. On the other hand, the death-rate by consumption may be the largest in a year otherwise of great health.

For instance, in 1860 there was but 1 death from consumption in every 680 of the population, while in 1880 this has increased to 1 in 598 of the population; but the ratio was but slightly changed—in 1860 it was 8.25, while

in 1880 it was but 8.75. It will thus be seen that we are entirely misled by the ratio. The death-rate by consumption, in 1880, should appear much larger, when as a matter of fact it appears smaller.

The table next to follow is the most important, so far as consumption is concerned—in fact it is the only one that gives us any practical and reliable information as to the prevalence of this disease.

TABLE No. 3.

THE PROPORTION OF DEATHS BY CONSUMPTION, AS COMPARED WITH THE POPULATION OF THE FOLLOWING STATES, FROM THE CENSUS RETURNS.

	1860	1870	1880
Maine .....1 in—	280	314	354
New Hampshire.....	280	334	453
Rhode Island.....	300	393	400
Connecticut.....	360	441	448
Vermont	400	462	408
New York.....	470	378	387
New Jersey.....	490	442	430
Delaware	550	422	410
Maryland.....	570	464	393
Pennsylvania.....	580	472	518
Michigan	630	635	622
Kentucky	660	520	441
Ohio.....	670	497	540
California.....	720	449	479
Virginia.....	750	584	500
Indiana.....	760	598	501
Massachusetts	254	282	342
Tennessee	770	529	409
Louisiana.....	840	515	620
Wisconsin	850	800	784
Illinois.....	880	696	
Missouri.....	900	633	
Iowa.....	902	909	843
Kansas.....	910	882	890
Minnesota.....	1139	958	920
North Carolina	1300	866	657
Arkansas	1322	1124	840
Mississippi.....	1420	1191	877
Texas.....	1430	1203	981
Florida.....	1440	1433	1024
Alabama.....	1618	1310	1300
South Carolina.....	1720	1072	1037
Georgia.....	2150	1347	897

The above table, to the student of the etiology of consumption, is, to say the least, of striking interest. Here is a disease that, in one generation, is not only making remarkable strides toward the conquest of new territory, but is apparently moving from its old haunts. So far as the last proposition is concerned, let us hope that on this continent this terrible disease has reached its maximum mortality.

As enticing as the field is for discussion and theorizing, I will not at present enter upon it. I have simply collated facts for others to ponder and investigate. It is too early yet to say what hold consumption will take upon the Northwest, and it is perhaps too early, with the data we have at our disposal to hope that its grasp is being loosened from the New England States.

I think, however, that we may fairly conclude that its increase in the South is the price that the negro has had to pay for his freedom, for the reason, that the increase of consumption in the South has dated from 1870, after the close of the war. An investigation of the census returns, however, will undoubtedly throw light upon this point, as they will show in what race the increase has been developed. It will also be of interest to note the effect of the large influx of Scandinavian population in the Northwest. This is not only a strumous, light-haired people, but one that has suffered for ages from consumption, and more, it is a people that is surely deficient in the observance of hygiene, and from their peculiar thriftiness receive but little medical attendance while sick. Morally and intellectually they are destined to add much to the future race of Northwestern Americans, but whether health and physical stamina comes with them remains to be seen.

I repeat that consumption and all that pertains thereto is to be studied to the best advantage in America, and I can but hazard the opinion that climate is not to be so

important a factor in its study as has been supposed. I can but think that we will have to study it as a family or community, and not as a State disease or under the influence of climate alone. Experience teaches me that to a certain extent each family make, or control the climate in which they live. One man puts his house in a low, wet locality, and for the purpose of protecting himself from the wind, endures what is infinitely worse, moisture and malaria, and thus makes for himself a climate conducive to catarrhal and lung difficulties. Another for some occult reason plants a forest of trees about his house, and covers it thereby with moss, and expects to thrive where even the grass in his door yard cannot live. Still another will allow but one or two visits from a physician in his family, if he chance to live in the country. And another large class visits the physician merely to know if wife, son, or daughter "is failing." If the physician says no, they are satisfied of recovery, if he says yes, they reconcile themselves to the worst. And others breed children but for the fool-killer.

On the other hand there is a large population, particularly in cities, who die of necessity, poor souls. As to the disease itself and its propagation much, nay all has yet to be learned. In my own mind I cannot disassociate the word potato-rot from the word consumption. That it is a disease analogous to the fungal diseases of vegetables, there is certainly a strong probability. Potatoes can not be grown successfully on the same ground for a series of years without disease showing itself. Is this true of the human family.

TRICHINIASIS.

Mr. President and Gentlemen of the State Medical Society:

By the request of a member of our Society, I will as briefly as possible give you my experience with cases of trichiniasis. On the 19th day of January last was called by telegram to Minneota, thirteen miles north, to see Dr. Sanderson, age 40. Found the doctor sitting in a chair troubled with a severe cough, respiration labored, ankles œdematous, abdomen tympanitic and a profuse diarrhœa, pulse 130, temperature 103½, appetite poor, disagreeable taste in the mouth, complaining much of stiffness. Took the history of the case, making as thorough an examination as possible; thought best to reserve my diagnosis until morning. The doctor told me there was a young man, a patient of his, two blocks up the street whom he wished me to see. I found this man to be a German, 24 years of age, by name William Kushner. His sickness dated from Christmas. Had been treated for typhoid fever by the attending physician, pulse 120, temperature 102, troublesome cough, dyspnœa, diarrhœa, difficult deglutition, pain in chest, profuse perspiration, œdematous ankles, pitting on pressure, muscles very sensitive, bad taste in mouth, and very despondent. Also found two younger brothers complaining with similar symptoms. By this time my suspicions were aroused as to a common cause for the disease. Passing down the street on the

way to my first patient met Dr. R——, who invited me to call with him to see a patient in the lower portion of the village. I here found another case of like character. Returning to my first patient, Dr. S., I asked him if he had eaten anything to cause his diarrhœa; said that he, in company with several others, had been drinking frozen beer and eating raw ham at a social gathering a few evenings previous. This gave me a clue to the trouble and I at once pronounced the cases trichiniasis. Dr. Andrews, of Marshall, was also making visits to Minneota to see Dr. Sedlitz, a German who was sick. Seeing Dr. A. the day following I learned that his patient had symptoms identical with the cases I had seen, and that we were agreed as to the disease. January 19th Fred Perkin, a German, died at Canby, and an autopsy sought but could not be had. January 20th Joseph Wilford died at New Ulm. Both of these men were present at the above mentioned festivities, and partook of the frozen beer and raw ham. January 28th William Kushner died at Minneota. The Kushner family consisted of six persons; husband, wife, three sons and one daughter. They had all partaken of the pork and were all sick. The father died some three weeks previous; was treated by attending physician for typhoid fever with rheumatic complications. It was desirous on the part of Dr. Andrews and myself, that an autopsy be held on the body of William Kushner, and that members of the State Board of Health be present. Telegrams were immediately sent to this end. Dr. C. N. Hewitt responded, and was present at the examination held January 31st. There were also present Drs. Berry, of New Ulm, Bennett, of Watertown, Farnsworth, of Canby, and Marcellus, of Sleepy Eye. The microscopic work was very dexterously performed by Dr. Hewitt, revealing trichinæ in abundance in the muscles of William Kushner. Specimens of ham were also subjected to microscopic examination revealing trichinæ. Later,

samples of all pork upon which rested suspicions were sent to Dr. Hewitt. The result of such examination was at once made known, and diseased pork destroyed. The hogs in question were raised by the village butcher, Peter Peckles, in close proximity to his slaughter house. Refuse matter of all kinds could be eaten by the swine. Rats were known to infest the premises in numbers. We had under our care nine of the fifteen cases. Out of this number one died, *i. e.* William Kushner, upon whom the autopsy was held. As to treatment, indications were met as they arose in the different stages of the disease. Supportive measures were adhered to, quinine, tr. of iron, brandy and acids. To allay pain, opiates, chloral and bromides. Anodyne and stimulant lotions to the surface. By way of nourishment, beef essence, milk, egg-nog. Medicines and food gived by enemata when required. Brandy or whisky seemed to have a beneficial effect in way of aborting the trouble; in proof of which will cite the cases of the village butcher Peter Peckles and Mr. O. T. To check the diarrhœa following the eating of the raw ham, they used alcoholic drink freely, and with greater freedom when they found out that they were affected with trichiniasis. The result was they were out every day, and in ten days time were seemingly well. How much credit is due to the stimulants I can not say.

C. E. PERSONS.

Marshall, May 10th, 1882.

CANTHO-PLASTY.

ITS THERAPEUTIC VALUE IN CERTAIN DISEASES OF THE EYE.

BY A. BLITZ, M. D., MINNEAPOLIS, MINN.

The operation of cantho-plasty and its true therapeutic value in a large number of diseases of the eye, is so little known, and its practical results so imperfectly understood, that it will not be amiss to call the attention of the profession to the benefits to be derived by suffering humanity from an early and judicious resort to this simple and at the same time invaluable operation, if performed in a skillful manner.

Every physician who has had to deal with a large number of the more severe forms of granular conjunctivitis, must have experienced how difficult it sometimes is to produce any material result or advance in the treatment of this affection, from even the most approved medication alone, owing to the contracted condition of the palpebral conjunctiva lessening the palpebral fissure, and the pressure exerted by the eyelids upon the globe.

The same conditions we have in other forms of severe chronic conjunctivitis; the eyes have the appearance of being much smaller than in their normal condition. This effect is produced not by a shrinking of the eyeball itself,

but by a gradual contraction of the palpebral conjunctival tissues by the process of absorption, causing a narrowing of the palpebral fissure.

The remedial effect of cantho-plasty are: first, increase of space between the eyelids and the globe. Second, freer movements of the globe. Third, by removing the pressure of the eyelids from the globe the irritating rubbing between the palpebral and ocular conjunctiva is prevented. Fourth, it is of great value in those cases for the sake of its cosmetic effect, because it enlarges the palpebral fissure and makes the eye look more natural.

In cases of phlyctenular conjuctivitis with keratitis, a disease very common in children, generally of bad constitution and unhygienic surroundings. They are shut up in a dark room, sometimes for weeks and months, where not alone no adequate sunlight can penetrate, but where on account of the excessive photophobia all the light and with it the little pure air which might perhaps find entrance, is vigorously shut out.

These poor, pitiful little sufferers who are thus compelled to breathe the overheated, poisonous atmosphere of those rooms, are badly nourished, in a debilitated condition, after having perhaps for weeks or months undergone an antiphlogistic treatment, so-called, and many of them belonging to the poorest classes, are perhaps in a filthy condition, their bodies not having given water a chance even to become contaminated with the exhalations emanating from them.

Can any one wonder then that such cases do not get well? That instead of the ordinary treatment making a favorable impression, the disease advances step by step? The inflammatory action attacks the cornea, vesicles, pustules, and at last ulcers form upon it, the pain and photophobia become almost intolerable, caused in a great measure by the combination of heat and swelling of the

eyelids, and the spasmodic contraction of the orbicularis palpebrarum muscle.

Now, what other treatment would here be as effectual and bring such magic relief to the eye, as a well performed cantho-plasty? This will at once, as soon as the outer canthus is cut open, pour out the blood, which has kept the vessels distended, relieving the pressure which has so long interfered with the proper nutrition of the cornea.

If now the hygienic surroundings of the patient are properly attended to, when the child is taken out of the room once or twice a day, and the sunlight and fresh air are allowed to come into the room, when cleanliness is rigidly enforced, when the patient has a plain but nourishing diet, a tonic of iron, quinine and strychnia, or any other combination of ingredients producing the desired effect, besides local applications of either atropine or duboisia, and once or twice a day a weak application of the hydrg. oxid. flava in vaseline, or light insufflations of calomel, (I prefer the first), it will be only a very short time, perhaps only a week or two, before the patient is again able to have the use of the eyes.

Such a treatment will save the eyes and be a blessing to the patient, while with the old treatment we can often see as a result the unfortunate patient put into an asylum for the blind, in which to wear out this miserable existence.

Cantho-plasty will prove a most valuable assistance in the treatment of all acute forms of keratitis, especially the ulcerative, and where accompanied by blepharospasm. I have performed the operation in a great number of such cases, and have always seen the most happy results follow.

In many slight cases of trichiasis cantho-plasty will often remedy the evil, even if no other surgical interference is resorted to, and I generally combine it with the regular operation for entropion, in operating for the correc-

tion of that affection, and find it to be a great help in giving the operated eye a more natural appearance after healing, which is especially desirable in such cases on account of the cosmetic effect produced.

In cases of severe purulent conjunctivitis, when the swelling of the eyelids is too great to enable us to evert them, when the thorough removal of the pus and proper medication is an impossibility, and especially when we have reason to fear that the integrity of the cornea is endangered, or that perhaps the ulcerative process has already made considerable progress, we will gain the most salutary results from a prompt and free division of the external commissure.

The incision should be carried down to the edge of the orbit, but leaving the conjunctiva intact; the flow of blood from the wound will relieve the pressure and lessen the inflammatory action; it will give us better facilities for cleansing the conjunctiva, enable us to make our applications to the diseased surface more thorough and easier, and so increase the chances of saving the eyes from destruction, which may have been their fate, without the division of the external commissure. In such cases there is no necessity for sutures, the simple division is sufficient. The parts are left to heal without interference.

Cantho-plasty is an operation easily performed, if the different steps are properly understood, but it requires also a certain dexterity in the operator, and a great deal of nicety must be observed, else not only is the relief sought to be produced defeated, but the operation may result in an actual deformity, which certainly should be avoided by every surgeon.

A correct description of the operation cannot come amiss.

In adults when pain can be well borne, the operation can be done without an anæsthetic, but in children and nervous individuals it should always be employed.

The patient lying in the recumbent position, the head slightly turned to the opposite side, the external commissure of the eyelids is to be split in a straight line, with a pair of straight, blunt-pointed scissors, down to the conjunctival cul-de-sac, including the integument, orbicularis muscle, canthal ligament and conjunctiva. In length the incision may vary from half to five-eights of an inch, depending upon the length of the cul-de-sac inside, and the distance to the orbital edge outside.

The bleeding which follows is not very formidable; no ligature is necessary for the bleeding vessels, and I prefer to wait until it ceases of its own account, simply sponging the parts with luke-warm water.

The next step is to notch the upper canthal ligament, which can be easily found by taking the upper eyelid between the thumb and forefinger of the left hand and drawing it slightly inwards. This will put the ligament upon the stretch when it can be notched near the orbital border by a single clip of the scissors, which is done at right angles to the split in the commissure, after which an appreciable yielding of the lid will be felt. The lower ligament is not to be interfered with, as there is no necessity for it, and may, if attempted, lead to unpleasant consequences, such as a sufficient relaxation to produce ectropion of the lower eyelid.

The next step in the operation is the application of the sutures. In doing this great care should be exercised in bringing the parts neatly together all around, each cut edge of the conjunctiva with each cut edge of the integument, but not including in the sutures the ligament or any fibres of the orbicularis.

The sutures should consist of fine but strong silk, and must be placed with a curved needle held in a needle holder. From four to five sutures may be employed.

The palpebral fissure will now be found considerably

lengthened, and the pressure is removed from the eyeball, allowing the latter to move more freely.

The patient should be enjoined to be careful and cleanse the newly made commissure quite often, so as to prevent the formation of scabs and the contraction of the new opening.

After thirty-six, or at the latest forty-eight hours, the sutures should be removed.

As the process of healing goes on there will be a slight contraction of the new commissure, and in a few weeks hardly any traces of the operation will be noticed.

Report of Committee on Necrology.

The Committee on Necrology have to report the death of three members of this Society; two of which should have been noticed at former meetings had the then committee been informed of their death. Owing to the death of the chairman of this committee, Dr. Blood, the necessary data could not be obtained to the extent desirable by the remaining members on whom devolved the duty.

The committee would here remark that some trouble has been experienced in ascertaining the Alma Mater and date of graduation of members of this Society from published "Transactions." In a great majority of cases it is so published, but in a few, not. We would suggest that the committee on "New Members" carefully note these particulars, and the "Publication" committee have the same facts published in our yearly abstract. The mortuary record is given in the order of the time of decease.

*SOLOMON BLOOD, Chairman,
D. W. HAND,
*WM. W. SWENEY,
Committee.

FREDERICK WILLIAM HERMAN MULLER, M.D.,

(on the records of this Society G. H. Muller,) of German descent, was born in Yonkers, New York, in 1850. Succeeding preliminary, literary and collegiate education, he

*Deceased.

graduated in medicine from the University of the city of New York in 1876. After a period of practice in connection with the Saint John Riverside Hospital, he removed to Madelia, Watonwan County, Minnesota, in 1877, and endeavored to build up a practice in that place. In this he did not succeed to the extent of his wishes, owing to the prior occupancy of others in the profession. Removing to St. James, in the same county, the same difficulties were encountered, and he then settled in Henderson, Sibley County, Minnesota, where he found a location in which there was a good prospect for establishing a remunerative practice.

In his former locations his retired and sensitive nature was much in the way of success, but in every place of residence he made some warm friends, and among those the most worthy of esteem in the community.

In the course of practice in Henderson, the exposure incident to the duties of his profession brought on an illness which, aggravated by his anxieties of a pecuniary nature and in relation to future prospects, terminated his existence on the 30th day of August, 1879, after a sickness of twelve days.

From information obtained by your committee, the disease was of supposed contagious character, and involved his removal to a place not the most favorable to his recovery. The unwillingness to trouble others prevented kind friends from coming to his assistance, but too late they were informed of his condition, when, hastening to his aid, they found him, as this graphic extract from a letter will express better than words of ours: "When he saw us enter he sprang up in bed and called us both by name, and said to us, 'You will stay with me.' And from that moment until he closed his eyes in death, his gaze was hardly ever withdrawn from us. Certainly his mind was affected to some extent, but he was able to ask and answer questions. He was also conversing in German with

the Lutheran minister. I asked him if I should bathe his head, and he said, 'I should like it, but I don't want to trouble you.' At five o'clock that afternoon he folded his hands and closed his eyes, and as the sun went down his spirit returned to God, who gave it."

If Dr. Muller could so endear himself to such friends as these, in a limited acquaintance, this Society has met with no small loss in his decease. In a more recent letter, and in answer to some inquiries made by your committee, there occurs this passage: "As to his habits there can be but one reply: *without reproach!* He had no vice, great or small; an honorable, upright man, and a sincere Christian. In him we have lost a *friend* and brother, whose place can *never* be refilled."

To all our inquiries we have received the same unreserved commendation of his character and abilities. As we have traced it, there is much in the history of this loss that should not be learned in vain. A bright intellect and a noble man has gone to his final resting place, unknown to the sympathies and support of his professional brethren, when such expressions of good will would have been of advantage to him, and might have obviated the sad results.

While we meet for mutual instruction in the line of our profession, it is perfectly competent and proper for us to include in the objects of our meetings, the cultivation and exercise of the moral and social virtues. If such is to be our future, there will be less hesitation in the struggling, needy and suffering in invoking aid of their more fortunate brethren. Let us have no more of this duplication of the experience of many; the same old sorrowful tale of a hard life of toil, involving the sad labor of living, made still harder by the sordidness of fellowmen!

CHARLES LORD, M. D.

Died in Shakopee, Carver County, Minnesota, on the third day of April, 1881.

The deceased was born in Westmoreland, New Hampshire, July 22d, 1817. He commenced the study of medicine in 1844, with Dr. Charles Woodhouse, of Rutland, Vermont, and with whom he remained for three years. In the last year of this study he applied theory to practice by accompanying and assisting his preceptor in the rounds of professional duty. In 1847 he entered into the practice of medicine in his native town, and continued in it until 1849, when he removed to Pittsburgh, Pennsylvania, here resuming practice but in connection with Dr Oldhouse, an established physician of that city.

After a few years' practice in Pittsburgh, Dr. Lord's health failed and he concluded to remove to the then Territory of Minnesota, hoping the climate would prove restorative. In the spring of 1854 he settled in what is the town of Chanhassan, Carver County, Minnesota. In the fall of the same year he removed to a farm which he pre-empted in an adjoining town in the same county, where he resided, occupied in agricultural pursuits, until in 1864. Having regained his health, he in this year removed to the the city of Shakopee, and resumed the practice of his profession, and continued in it up to the time of his last illness.

Dr. Lord was married to Miss Julia A. Buffum in 1839, and a union of forty-two years duration was severed by his death. Their family of seven children, five sons and two daughters, all survive him except one daughter, the wife of Hon. C. F. McDonald, whose decease was prior to that of her father. The cause of death was probably cerebro-spinal meningitis, and the duration of illness about twenty-four hours; the diagnosis could not be made certain.

The deceased was for over sixteen years engaged in a large and successful practice, and was universally esteemed as a physician and a man. He affiliated with this Society in 1870, and was consequently one of its oldest members. He was a member of the St. Peter's Episcopal church of his locality, and one of the most active vestrymen; was a member of the Masonic order, and a past master in his lodge; a member of the "Old Settlers' Association" of Carver County; county commissioner from the first organization of the county; six years a member of the city council of Shakopee, declining further service on account of interference with professional duties; and active member of the school board in every locality of residence, since becoming a citizen of our State. All these organizations testify with one accord, that every interest entrusted to his charge was faithfully advanced and protected, and that our late brother was a man of rare virtues, a "gentleman of unbending integrity and purity of character."

Such universal commendation from those who knew him best is an eulogy not often won, and still more rarely so well deserved.

SOLOMON BLOOD, M. D.

Dr. Blood was born in Hollis, N. H., Feb. 16th, 1810. In 1813, his father, Isaac Blood, removed with his family to Andover, Vermont. After receiving the education attainable in the common schools of his locality Dr. B. attended successively, the Chester Academy, at Chester, Vermont; the Wesleyan Academy, at Wilbraham, Massachusetts; and the Bloomfield Academy, at Bloomfield, New Jersey; and graduated from Vermont Medical College, at Woodstock, Vermont. His diploma is dated June 6th, 1838; and the names of the Professors attached thereto are: H. A. Childs, President; Norman Williams,

Secretary; David Palmer, Gilman Kimball, Elisha Bartlett, and R. Watts.

His preceptor was Dr. Henry Grey, of Cambridge, New York. Previous to his studies at the Vermont Medical College, he, in 1836, was a member of the class of that year in the New Hampshire Medical Institute (Dartmouth College.) He also, later in life, attended lectures in Rush Medical College, Chicago, Illinois.

Dr. Blood married Miss Asenath M. Jordan of Chester, Vermont, August 1st, 1839, and in the same year removed to Rochester, Racine County, Wisconsin. His wife died in 1849; two daughters at present living, and one deceased in early life, being the issue of this union. In 1851 he married Miss Almira S. Spaulding, of New Ipswich, New Hampshire, who still survives him.

Dr. Blood was actively engaged in his professional practice in Wisconsin up to the year 1865, when he removed to Owatonna, Steele County, Minnesota. Resuming practice, he here resided until his decease, which occurred December 3d, 1881.

During the civil war he was Assistant Surgeon of the 32d Regiment Wisconsin Volunteers, but in the course of service, his health failing, he resigned the position. Afterward, again regaining his health, he again entered the service as Surgeon of the 39th Regiment Wisconsin Volunteers. He was a member of the Wisconsin State Medical Society, and was elected its President in 1861; was a member of the Minnesota State Medical Society from its organization in 1869, and its Vice President in 1870, besides serving actively on several important committees. At the time of his death he was chairman of the Committee on Necrology, and had the appointment, by the President of the Society, of delegate to the American Medical Association at its annual meeting held in June at St. Paul, Minnesota, of which Association he was a member since 1870.

The Committee received, in answer to inquiries as to the particulars of his illness and death, the following, from a member of the family: "His disease was cancer of the stomach. He had been unwell all summer, and during the months of September and October had chills about every third day, but attended to business until into November. For the last two weeks he took no nourishment into his stomach, but was supported by other means. He only kept his bed five days, and bore his sufferings without a murmer or complaint.

"He did not call in a physician until about a week before his decease, when Drs. Staples, of Winona, and J. Palmer Johnson, of Blooming Prairie, met in consultation; Dr. Johnson continuing to attend him until his death, which occurred December 3d, 1881. His mind was perfectly clear to the last, recognizing and greeting friends who came in but a few moments before he passed away."

In recording this loss to our Association your committee necessarily feel more than ordinarily impressed with the sad duties of the position. The chief member of its organization has passed away; and not only this, but an old and true friend we shall see no more forever!

A studied eulogy is impossible, because we could indite no words that would fill the measure of our deceased friend's merits. All of us who knew him were cognizant of his professional ability. The active interest he manifested in everything pertaining to medicine and its advancement, an interest which no weight of years appeared to lessen, is evidenced by over forty years of active professional service, by his attention to the requirements of medical ethics, both in private practice and in the councils of our Association, and by the ready performance of those duties entrusted to him by the State Society. As a citizen, companion, and friend, he was all implied in the best sense of the terms. He could not

well be other than we knew him—the basis element of his character was born with him—God made him an *honest man*, and the superstructure of his life was formed on that foundation.

BENJAMIN R. PALMER, M. D.

Died in Sauk Centre, Minnesota, on the 6th day of May, 1882, aged 67 years.

We are indebted to Dr. J. A. Dubois, of Sauk Centre, for information in regard to the history of the deceased.

Dr. Palmer was born in South Berwick, Maine, on the 5th day of March, 1815. He early evinced a love for study, and purposed taking a complete college course. He prepared at Dover and Derry, New Hampshire, and entered Bowdoin College in 1834; but on account of poor health was compelled to give up his studies in his sophomore year. Afterwards, his health improving somewhat, he began the study of medicine, reading first with Dr. Hawks, of Eastport, Maine, and subsequently with Dr. Fahnestock, of Pittsburgh, Pennsylvania. He graduated from the University of Maryland, Baltimore, in 1844.

For twelve years after graduation, Dr. Palmer practiced medicine in Pittsburgh, Pennsylvania. His health then failing, he removed to Minnesota in 1856, locating in St. Cloud, Stearns County. In 1857 he visited France, spending several months in attendance at the Hospital of Paris. Returning to Minnesota he resumed practice, and at the time of the Sioux outbreak was appointed Acting Assistant Surgeon in the U. S. Army, stationed for four years at Fort Ripley and Sauk Centre. On the close of the war he concluded to make Sauk Centre his permanent home, where he was engaged in active practice up to within a few months of his death. Dr. Palmer was the pioneer physician in his locality, and the confidence of

the community in his professional ability and character as a man was unbounded.

In 1870 he became a member of our Society, and, although not a regular attendant at our meetings, was a valuable member of the profession, much esteemed by all who were favored with a personal acquaintance.

FRANCIS ATWOOD, M. D.

The Committee on Necrology deem it proper to anticipate its annual report for the next annual meeting, to announce the death of Francis Atwood, M. D., of Saint Paul, which occured on the 5th of August, 1882.

Dr. Atwood occupied so prominent a position in the profession, and in the State Medical Society, as to justify the committee in taking advantage of the still open columns of the Transactions for 1882, to give this early notice of his altogether unlooked-for demise.

At our last annual meeting, June 6th, he was in the heyday of his life and usefulness; and now, early stricken, he has passed from his work; and his place amongst us shall know him no more. When next we meet in annual session, there will be "one vacant chair" that will long remain unfilled, and memory will cherish the many virtues of the quiet, gentlemanly man, who so long and so modestly and worthily occupied it.

Dr. Francis Atwood was born on the 20th of August, 1826, at Franklin, in the vicinity of Boston, Massachusetts; and obtained his elementary education at Exeter Academy, after which he entered the literary department of Harvard University, and graduated Bachelor of Arts in the class of 1869. He then entered the medical department of Harvard and graduated Doctor of Medicine in the class of 1873.

Following this he became an interne in the wards of the eye and ear department of the Boston City Hospital for a year, and then left to perfect his studies in Europe, where, principally as a pupil of Von Graefe, he acquired that thorough practical knowledge of his specialty, which has enabled him, while still a young man, to step into the front rank of those who moved in his department. After his return from Europe he located in Saint Paul in November, 1874, and soon rose to an eminence that insured him a lasting fame, and a pecuniary competence that was the just reward of his skill and unremitting labor.

He was an active member of, and a contributor to the papers, of the Ramsey County and Minnesota State Medical Societies, and was also a member of the American Medical Association. He stood remarkably well in the estimation of his professional confreres, and the universal sorrow expressed by them for his untimely death is the best monument of his professional and manly worth.

The cause and manner of his death may be summed up in that, to our profession, most significant phrase "overwork." Like so many workers, he could *find no time for rest*, but labored on with breaking health and exhausted nerve centres, till finally nature, pressed beyond the limits of further endurance, succumbed to a low nervous fever of no special type, but with a mixture of malarial and typhoid pneumonia, steadily progressed towards the fatal goal, and the best devised measures which skill and friendship could suggest met with no response from the worn out tissues of the great nerve centres, and no "vis a tergo" could rouse their recuperative force; and so he died, another martyr to conscientious overwork. He leaves an aged mother and young wife to mourn his too untimely ending. "Requiescat in pace."

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